

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 2/27/06
 Art Unit: 1756 Phone Number 30 2-1382 Serial Number: 101804, 719
 Mail Box and Bldg/Room Location: REM QD79 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: AZINE-BASED CHARGE TRANSPORT MATERIALS

Inventors (please provide full names): NUSRALLAH JUBRAN, ZBIGNIEW TOKARSKI,
KAM LAW

Earliest Priority Filing Date: 5/30/03

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

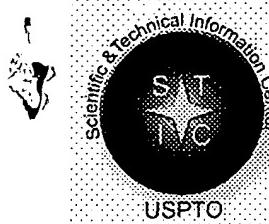
PLEASE SEARCH COMPOUND IN CLAIM 28
 WITH THE X GROUP DEFINED IN CLAIM 29
 SEE COMPOUNDS IN CLAIM 33 FOR
 EXAMPLES.

SCIENTIFIC REFERENCE BR
 Sci & Tech Inf - Cntr

FEB 27 REU

Pat. & T.M. Office

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher:	<u>MQH</u>	NA Sequence (#)	STN
Searcher Phone #:		AA Sequence (#)	Dialog
Searcher Location:		Structure (#)	<u>2 (Subset</u> Questel/Orbit
Date Searcher Picked Up:		Bibliographic	Dr. Link
Date Completed:	<u>3/3/06</u>	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	<u>20</u>	Fulltext	Sequence Systems
Clerical Prep Time:		Patent Family	WWW/Internet
Online Time:	<u>60</u>	Other	Other (specify)



STIC Search Report

EIC 1700

STIC Database Tracking Number: 1800331

TO: Janis Dote
Location: Rem 9D79
Art Unit : 1756
March 3, 2006

Case Serial Number: 10/804719

From: Mei Huang
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-3952
Mei.huang@uspto.gov

Search Notes

Examiner Note,

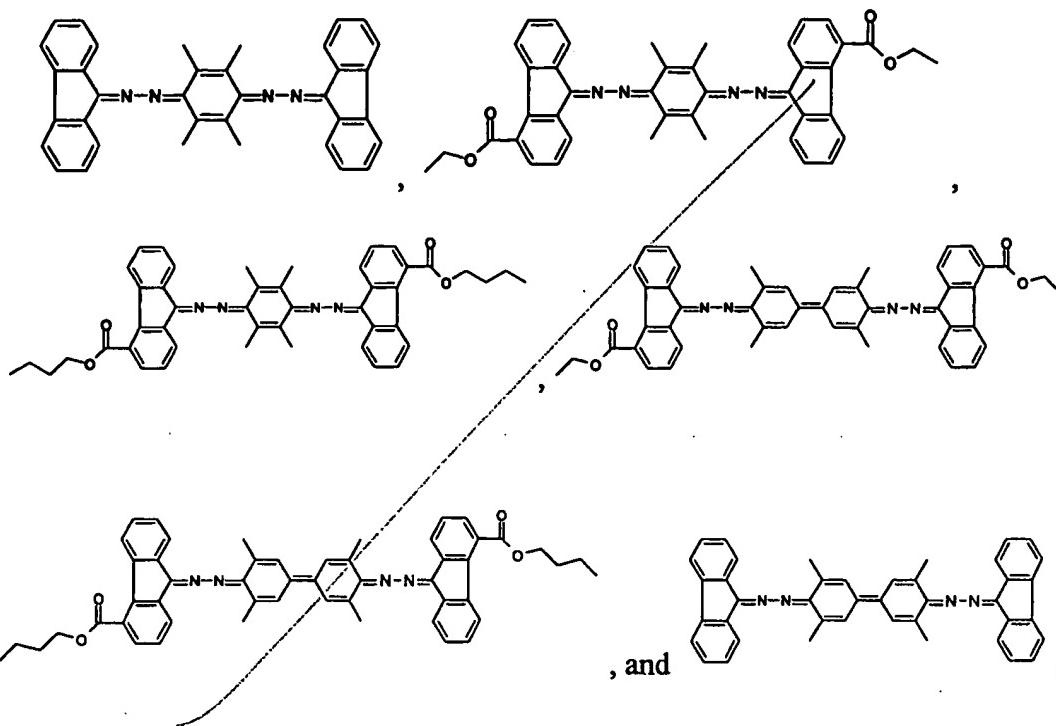
- Search on the subset, L8 on page 1, hit 12 compounds. However all of them were applicant's ones, see L11, L14 and L15.
- Crossover the broader structure query, L6, to CA and further limit with utility terms and 39 answers were retrieved, see L14.

If you have any questions or if you would like to refine the search query, please feel free to contact me.

Thank you for using STIC services!

Mei Huang

Attorney Docket No.:3216.58US02



10

28. A charge transport material having the formula



where Y and Y' are, each independently, a 9-fluorenylidene group and X is a conjugated linking group that allows the delocalization of pi electrons over at least Y and Y'.

15

29. A charge transport material of claim 28 wherein X comprises a 1,2-ethanediylidene group, a 1,4-phenylenedimethylidyne group, a 2,4-cyclohexadienylidene group, a 2,5-cyclohexadienylidene group, a bicyclohexylidene-2,5,2',5'-tetraene group, a bicyclohexylidene-2,4,2',4'-tetraene group, or a combination thereof.

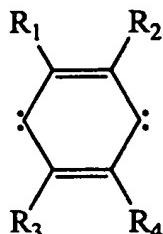
20

30. A charge transport material according to claim 29 wherein X comprises a $(C_6R_1R_2R_3R_4)_n$ group, where the C_6 group is a cyclohexadienylidene group with substituents $R_1R_2R_3R_4$; n is an integer between 1 and 20, inclusive; and R_1 , R_2 , R_3 , and R_4 , each independently, are a hydrogen, a halogen, an amino group, a nitro group, a

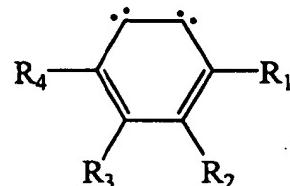
Attorney Docket No.:3216.58US02

cyano group, an alkyl group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

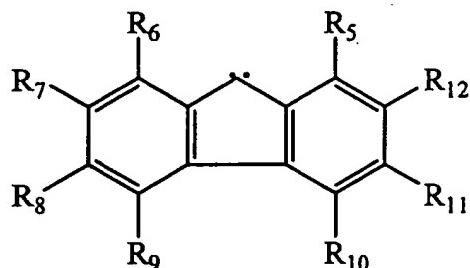
31. A charge transport material according to claim 29 wherein the $C_6R_1R_2R_3R_4$ group has one of the following formulae:



or



32. A charge transport material according to claim 28 wherein Y and Y', each independently, have the following formula:

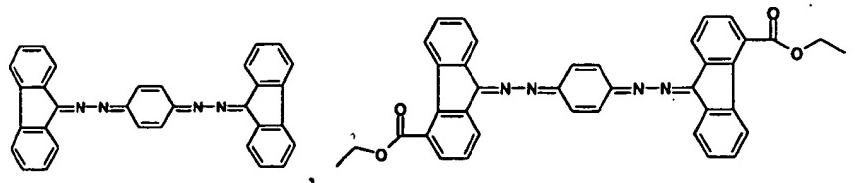


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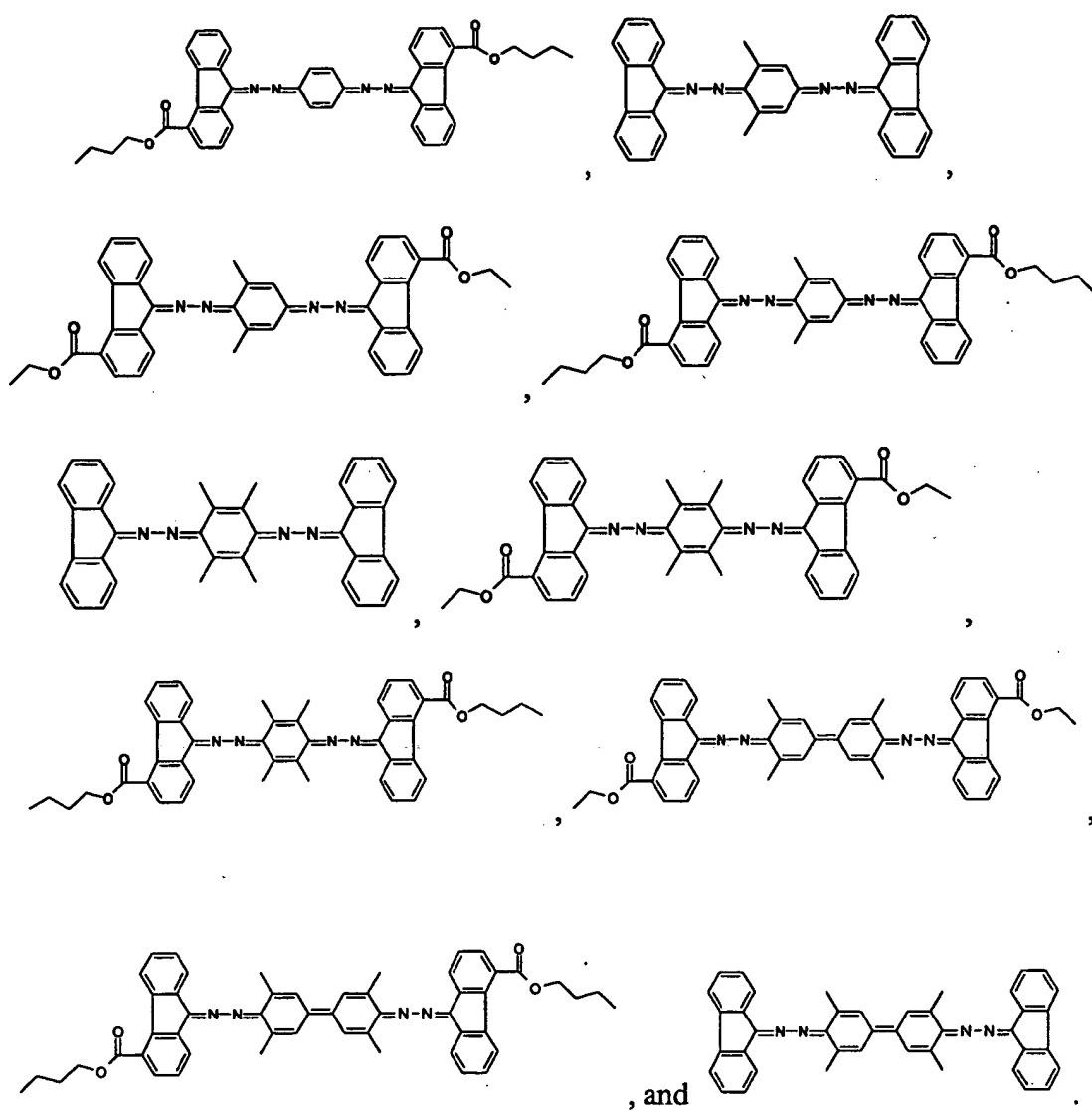
where R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , and R_{12} , each independently, are a hydrogen, a halogen, a hydroxyl group, a thiol group, a carboxyl group, an amino group, a nitro group, a cyano group, an alkyl group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

15

33. A charge transport material of claim 28 wherein the charge transport material has the following formulae:



Attorney Docket No.:3216.58US02



=> fil reg

FILE 'REGISTRY' ENTERED AT 14:16:57 ON 03 MAR 2006
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(FILE 'HOME' ENTERED AT 12:57:52 ON 03 MAR 2006)

FILE 'HCAPLUS' ENTERED AT 12:58:08 ON 03 MAR 2006
E US20040241562/PN

L1 1 SEA US2004241562/PN
D IALL
SEL RN

FILE 'REGISTRY' ENTERED AT 13:07:03 ON 03 MAR 2006

L2 27 SEA (106-51-4/B1 OR 109-77-3/B1 OR 13629-22-6/B1 OR

L3 STR
L4 STR L3
L5 9 SEA SSS SAM L4
L6 202 SEA SSS FUL L4
SAV L6 DOT719/A
L7 0 SEA SUB=L6 SSS SAM L3
L8 12 SEA SUB=L6 SSS FUL L3
SAV L8 DOT719S1/A
L9 12 SEA L2 AND L6
L10 12 SEA L8 OR L9

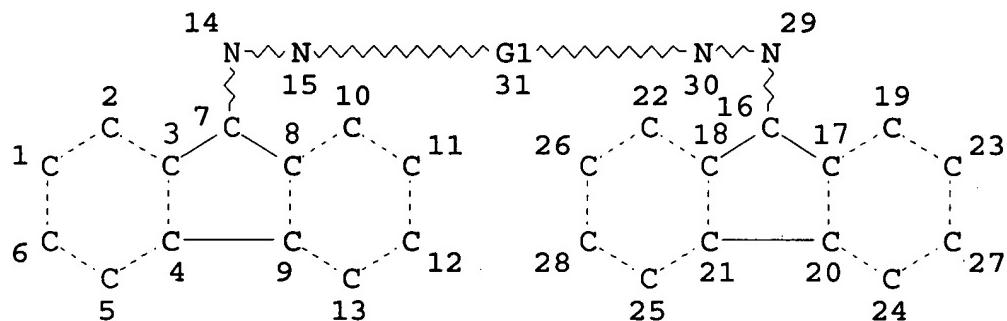
↳ Applicant's compounds

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L11 1 SEA L8
L12 83 SEA L6
L13 106261 SEA CHARG? (2A) (TRANSPORT? OR TRANSFER? OR MIGRAT? OR
MOVE# OR MOVING# OR MOVEMENT?)
L14 39 SEA L12 AND L13

=> d 18 que stat

L3 STR



Cb @32

Cb~Cb
@33 @34

VAR G1=32/33-15 34-30

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

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GGCAT IS MCY UNS AT 32
GGCAT IS MCY UNS AT 33
GGCAT IS MCY UNS AT 34
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E6 C AT 32
ECOUNT IS E6 C AT 33
ECOUNT IS E6 C AT 34

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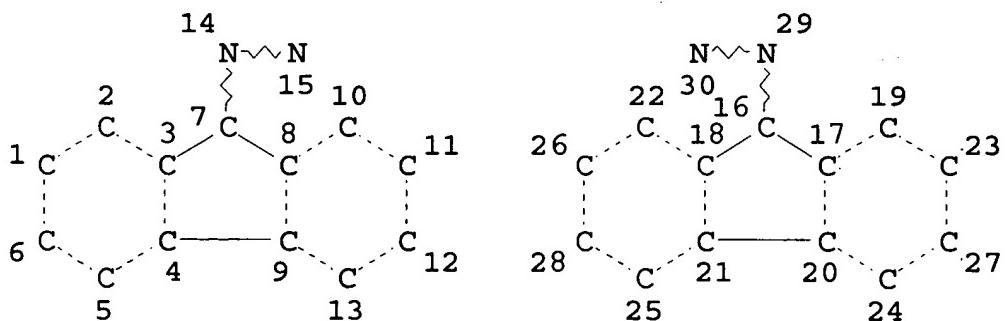
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE

L4 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE

L6 202 SEA FILE=REGISTRY SSS FUL L4
 L8 12 SEA FILE=REGISTRY SUB=L6 SSS FUL L3

100.0% PROCESSED 202 ITERATIONS
 SEARCH TIME: 00.00.01

12 ANSWERS

=> fil hcap
 FILE 'HCAPLUS' ENTERED AT 14:17:34 ON 03 MAR 2006
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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 COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l14 ibib abs fhitstr hitind 1-39

L14 ANSWER 1 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:104653 HCAPLUS
 DOCUMENT NUMBER: 144:180757
 TITLE: Azine-based charge transport
 materials having a bicyclic heterocyclic ring
 INVENTOR(S): Jubran, Nusrallah; Tokarski, Zbigniew
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 21 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006024599	A1	20060202	US 2004-900785	200407

28

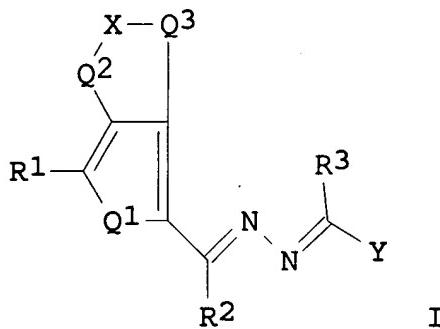
PRIORITY APPLN. INFO.:

US 2004-900785

200407

28

GI



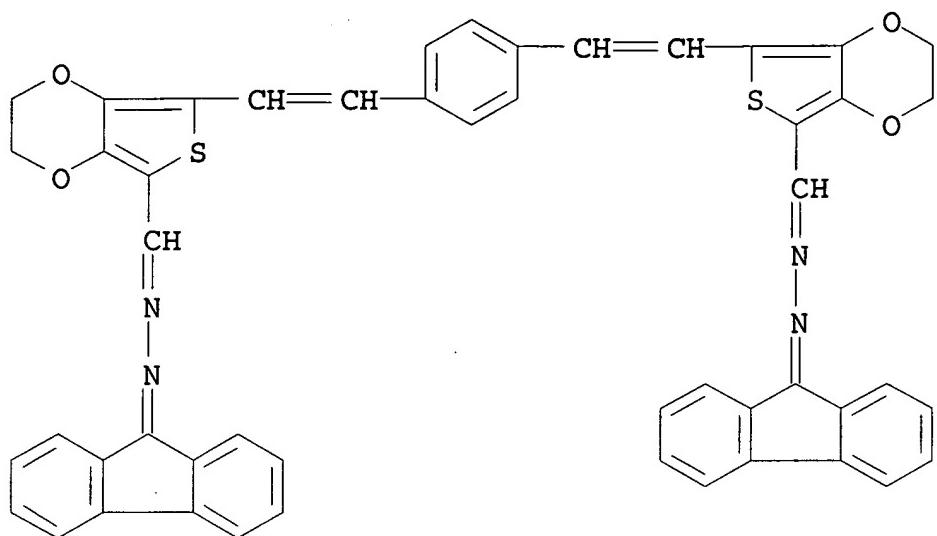
AB Improved organophotoreceptor comprises an elec. conductive substrate and a photoconductive element, on the substrate, contg. (a) a **charge transport** material having the formula I [Y = arom.; X is a -(CH₂)_n- group, where n is an integer between 1 and 10, inclusive, and one or more of the methylene groups is optionally replaced by another atom or group; Q1, Q2, and Q3 = O, S, or NR; R, R1, R2, and R3 = H, an alkyl group, an alkenyl group, an alkynyl group, an amino group, an acyl group, an alkoxy group, an alkylsulfanyl group, an arom. group, or a heterocyclic group] and (b) a charge generating compd. Corresponding electrophotog. apparatuses and imaging methods are described.

IT 874771-75-2P

RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(azine-based **charge transport** materials
having a bicyclic heterocyclic ring)

RN 874771-75-2 HCPLUS

CN INDEX NAME NOT YET ASSIGNED

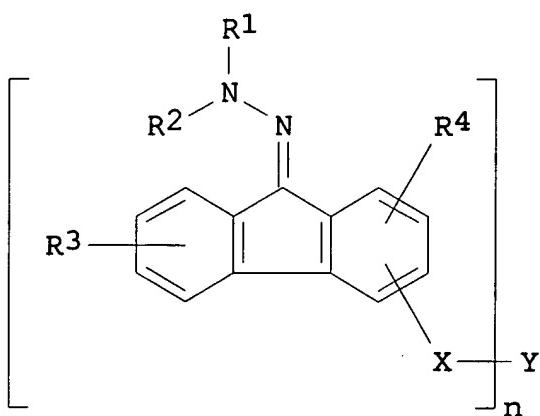


- INCL 430075000; 430078000; 430077000; 430079000; 549050000; 548444000
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST azine charge transport material electrophotog
 photoreceptor
 IT Electrophotographic photoconductors (photoreceptors)
 (azine-based charge transport materials
 having a bicyclic heterocyclic ring)
 IT 874771-72-9P 874771-74-1P 874771-75-2P 874771-76-3P
 874771-77-4P 874771-78-5P
 RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (azine-based charge transport materials
 having a bicyclic heterocyclic ring)
 IT 68-12-2, Dimethylformamide, reactions 10025-87-3, Phosphorus
 oxychloride 13629-22-6, 9-Fluorenone hydrazone 417704-16-6
 871209-25-5 871209-27-7 874771-73-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (azine-based charge transport materials
 having a bicyclic heterocyclic ring)
 IT 871239-77-9P 874771-71-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (azine-based charge transport materials
 having a bicyclic heterocyclic ring)

L14 ANSWER 2 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:283987 HCAPLUS
 DOCUMENT NUMBER: 142:363705
 TITLE: Organophotoreceptor with charge
 transport material having fluorenone
 hydrazone groups
 INVENTOR(S): Jubran, Nusrallah; Tokarski, Zbigniew; Law, Kam
 W.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 34 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005069794	A1	20050331	US 2003-671172	200309 25
EP 1522899	A2	20050413	EP 2004-255825	200409 24
EP 1522899	A3	20051214		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005099811	A2	20050414	JP 2004-280261	200409 27
PRIORITY APPLN. INFO.:			US 2003-671172	A 200309 25

OTHER SOURCE(S): MARPAT 142:363705
 GI



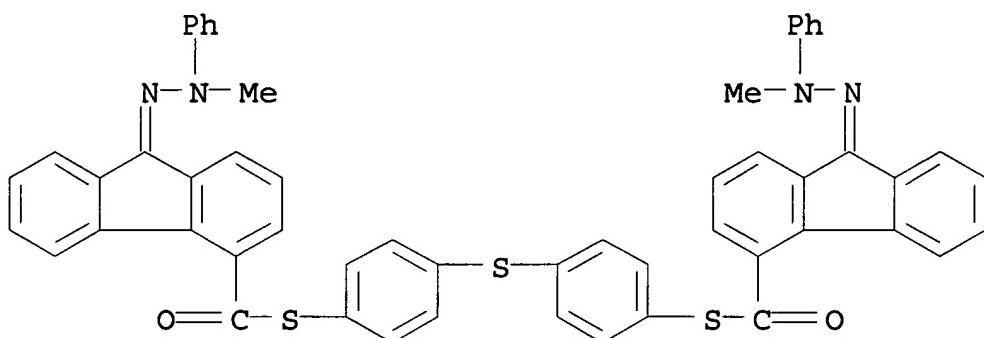
AB Disclosed is an organophotoreceptor comprising an elec. conductive substrate and a photoconductive element on the elec. conductive substrate, wherein the photoconductive element comprises a **charge transport** material having the formula I (n = 2-6; R_{1,2} = alkyl group, alkaryl group, or aryl group; R_{3,4} = H, halogen, carboxyl, hydroxyl, thiol, etc.; X = -(CH₂)_m-; m = 0-20; Y = C, N, O, S, -(CH₂)_p-; and p = 0-10).

IT 848829-15-2

RL: DEV (Device component use); USES (Uses)
(organophotoreceptor with **charge transport** material having fluorenone hydrazone groups)

RN 848829-15-2 HCAPLUS

CN 9H-Fluorene-4-carbothioic acid, 9-(methylphenylhydrazono)-, S,S'-(thiodi-4,1-phenylene) ester (9CI) (CA INDEX NAME)



IC ICM G03G005-05

INCL 430072000; 430077000; 430117000; 430970000; 430058150; 430058350

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25

ST organophotoreceptor photoreceptor electrophotog charge transport fluorenone hydrazone group

IT Electrophotographic photoconductors (photoreceptors)
(organophotoreceptor with charge transport material having fluorenone hydrazone groups)

IT 848829-15-2 848829-16-3

RL: DEV (Device component use); USES (Uses)
(organophotoreceptor with charge transport material having fluorenone hydrazone groups)

L14 ANSWER 3 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:275365 HCAPLUS

DOCUMENT NUMBER: 142:345115

TITLE: Organophotoreceptor with charge transport material having bis(9-fluorenone) azine groups

INVENTOR(S): Jubran, Nusrallah; Law, Kam W.; Tokarski, Zbigniew

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: Eur. Pat. Appl., 30 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

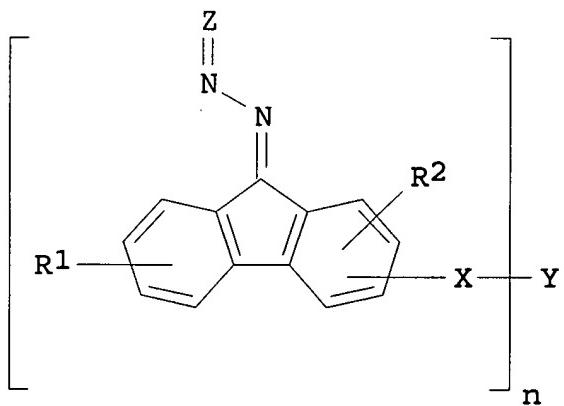
DATE

MEI HUANG EIC1700 REM4B28 571-272-3952

03/03/2006

EP 1519240	A2	20050330	EP 2004-255822	
				200409
				24
EP 1519240	A3	20051214		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
US 2005069795	A1	20050331	US 2003-671255	
				200309
				25
JP 2005099810	A2	20050414	JP 2004-280252	
				200409
				27
RITY APPLN. INFO.:			US 2003-671255	A
				200309
				25

OTHER SOURCE(S) : MARPAT 142:345115
GI



I

AB The present invention provides organo photoreceptor comprising an elec. conductive substrate and a photoconductive element on the elec. conductive substrate, the photoconductive element comprising:
(a) a charge transport material having the general formula I ($n = 2-6$, inclusive; $R_{1,2} = H$, halogen, carboxyl,

hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group; X = linking group having the formula -(CH₂)_m-, branched or linear, where m = 0-20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, urethane, urea, an ester group, etc.; Y = bond, C, N, O, S, a branched or linear -(CH₂)_p- group where p is an integer between 0 and 10, an arom. group, a cycloalkyl group, a heterocyclic group, etc., wherein Y has a structure selected to form n bonds with the corresponding X groups; and Z is a fluorenylidene group) and (b) a charge generating compd.

IT

848761-64-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

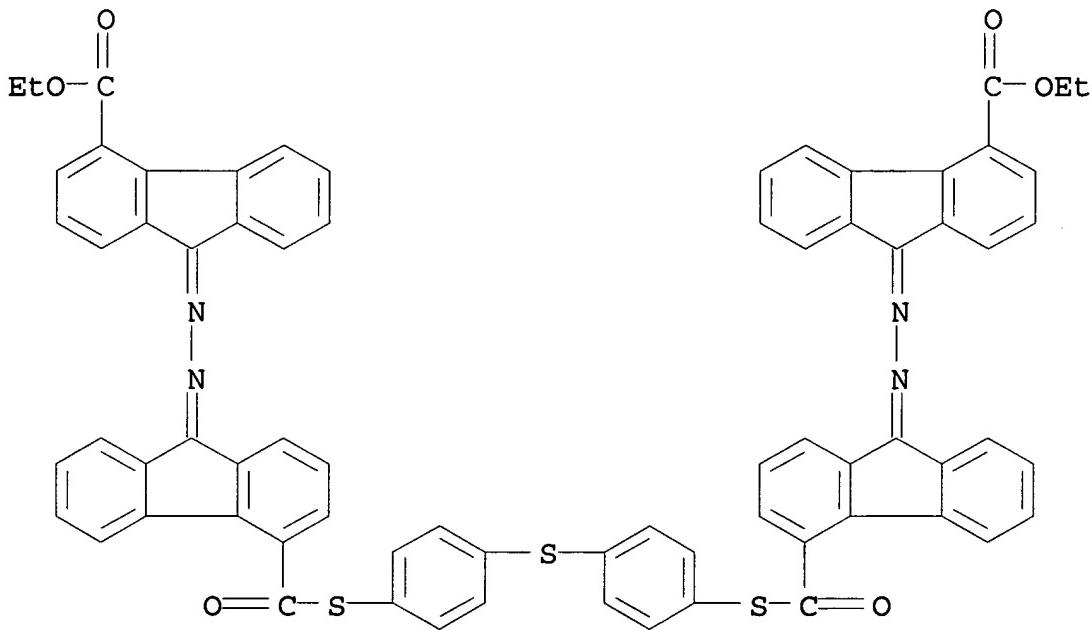
(charge transport material for organo photoreceptor)

RN

848761-64-8 HCAPLUS

CN

9H-Fluorene-4-carboxylic acid, 9,9'-[thiobis(4,1-phenylenethiocarbonyl-9H-fluoren-4-yl-9-ylideneazino)]bis-, diethyl ester (9CI) (CA INDEX NAME)



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and

- ST Other Reprographic Processes)
- ST electrophotog organo photoreceptor **charge**
transport material fluorenone azine
- IT Electrophotographic photoconductors (photoreceptors)
(organo photoreceptor with **charge transport**
material having bis(9-fluorenone) azine groups)
- IT 848761-64-8P 848761-65-9P 848761-66-0P
848761-67-1P 848761-68-2P 848761-69-3P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(**charge transport** material for organo
photoreceptor)
- IT 848761-70-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(**charge transport** material for organo
photoreceptor)
- IT 5447-75-6P 93376-18-2P 93519-65-4P 801221-57-8P 848657-47-6P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **charge transport** material for
organo photoreceptor)
- IT 71-36-3, n-Butanol, reactions 109-77-3, Malononitrile 111-46-6,
Diethylene glycol, reactions 112-47-0, 1,10-Decanediol 302-01-2,
Hydrazine, reactions 1072-71-5, 1,3,4-Thiadiazolidine-2,5-dithione
6223-83-2, Fluorenone-4-carboxylic acid 7071-83-2,
9-Fluorenone-4-carbonyl chloride 19362-77-7, 4,4'-
Thiobisbenzenethiol 27205-03-4, Bis[4-(2-
hydroxyethoxy)phenyl]sulfone 117344-32-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **charge transport** material for
organo photoreceptor)

L14 ANSWER 4 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:275364 HCAPLUS
 DOCUMENT NUMBER: 142:345114
 TITLE: Organophotoreceptor with a **charge**
transport material having at least two
azine groups
 INVENTOR(S): Jubran, Nusrallah; Law, Kam W.; Tokarski,
Zbigniew
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 28 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent

LANGUAGE: English

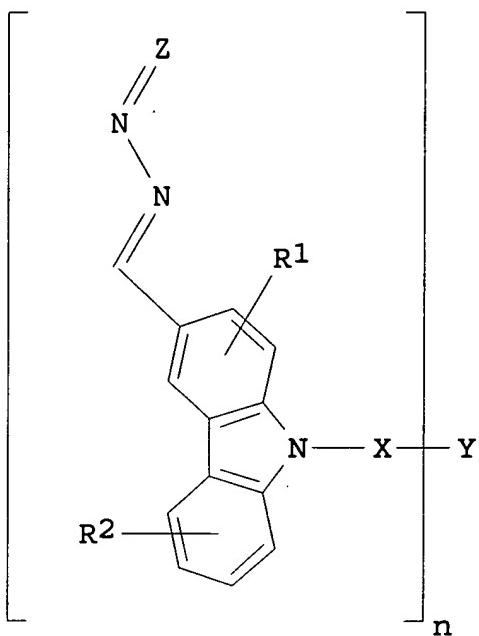
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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EP 1519239	A3	20051214	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR	
US 2005069798	A1	20050331	US 2003-670943	200309 25
US 6955869	B2	20051018		200409 27
JP 2005099808	A2	20050414	JP 2004-280065	
PRIORITY APPLN. INFO.:				US 2003-670943 A 200309 25

OTHER SOURCE(S): MARPAT 142:345114

GI



AB The present invention provides organophotoreceptors comprising an elec. conductive substrate and a photoconductive element on the elec. conductive substrate, the photoconductive element comprising:
 (a) a **charge transport** material having the formula I ($n = 2-6$, inclusive; $R_{1,2} = H$, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group; X = linking group having the formula $-(CH_2)^m-$, branched or linear, where $m = 0-20$, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, urethane, urea, an ester group, etc.; Y = bond, C, N, O, S, a branched or linear $-(CH_2)^p-$ group where p is an integer between 0 and 10, an arom. group, a cycloalkyl group, a heterocyclic group, etc., wherein Y has a structure selected to form n bonds with the corresponding X groups; and Z is a fluorenylidene group); and
 (b) a charge generating compd. Corresponding electrophotog. apparatuses and imaging methods (processes) are described, as are corresponding **charge transport** materials.

IT

848657-51-2P

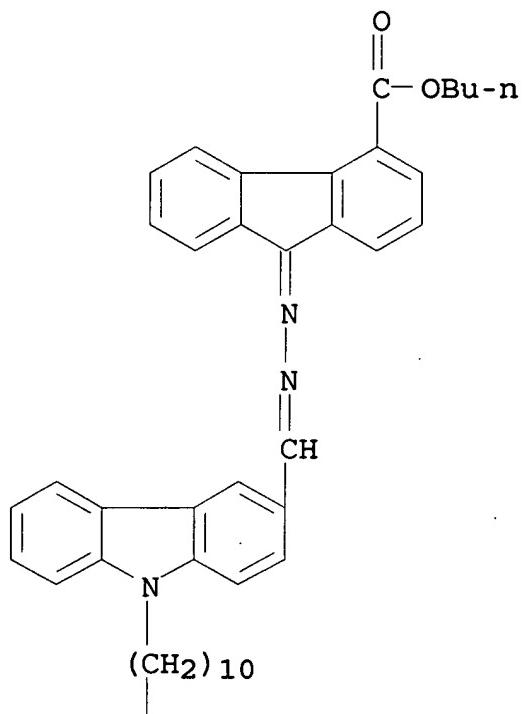
RL: SPN (Synthetic preparation); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)
(organophotoreceptor with **charge transport**
material having at least two azine groups)

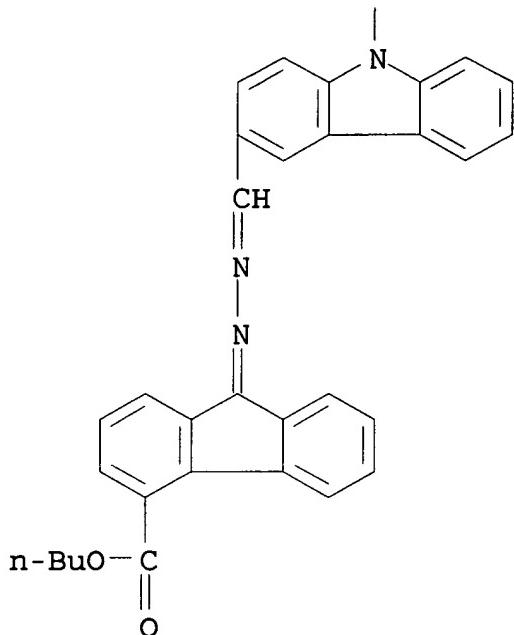
RN 848657-51-2 HCPLUS

CN 9H-Fluorene-4-carboxylic acid, 9,9'-[1,10-decanediylbis(9H-carbazole-
9,3-diylmethylidyneazino)]bis-, dibutyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



- IC ICM G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST electrophotog organophotoreceptor **charge transport**
 material least azine
 IT Electrophotographic photoconductors (photoreceptors)
 (organophotoreceptor with **charge transport**
 material having at least two azine groups)
 IT 848657-51-2P 848657-52-3P 848657-53-4P
 848657-54-5P 848657-55-6P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (organophotoreceptor with **charge transport**
 material having at least two azine groups)
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 848657-47-6P 848657-48-7P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (prepn. for organophotoreceptor with **charge**
transport material having at least two azine groups)
 IT 56-37-1, Benzyltriethyl ammonium chloride 86-74-8, Carbazole
 109-77-3, Malononitrile 111-50-2, Adipoyl chloride 302-01-2,

Hydrazine, reactions 1484-14-6, N-(Hydroxyethyl)carbazole
 3344-70-5, 1,12-Dibromododecane 4101-68-2, 1,10-Dibromodecane
 6223-83-2, Fluorenone-4-carboxylic acid 36839-55-1,
 1,2-Bis(2-iodoethoxy)ethane

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. for organophotoreceptor with charge

transport material having at least two azine groups)

IT 93376-18-2P 801221-57-8P 848657-49-8P 848657-50-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(prepn. for organophotoreceptor with charge

transport material having at least two azine groups)

L14 ANSWER 5 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:275363 HCAPLUS

DOCUMENT NUMBER: 142:345113

TITLE: Organophotoreceptor with charge
 transport material with fluorenone azine
 groups

INVENTOR(S): Jubran, Nusrallah; Law, Kam W.; Tokarski,
 Zbigniew

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: Eur. Pat. Appl., 27 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1519238	A2	20050330	EP 2004-255819	200409 24
EP 1519238	A3	20051214	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR	25
US 2005069793	A1	20050331	US 2003-670483	200309 25
CN 1601389	A	20050330	CN 2004-10082459	200409 22

JP 2005099809

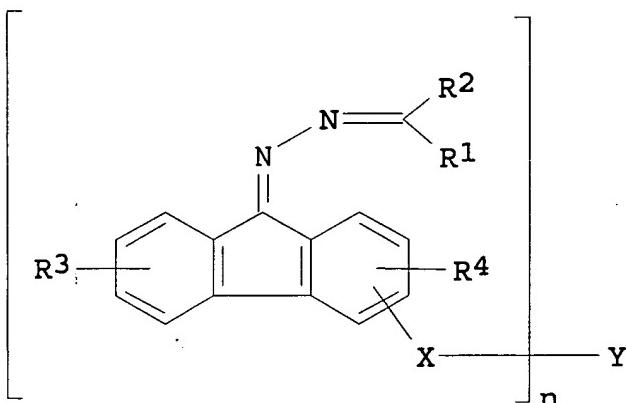
A2 20050414

JP 2004-280236

200409
27

PRIORITY APPLN. INFO.:

US 2003-670483

A
200309
25OTHER SOURCE(S) : MARPAT 142:345113
GI

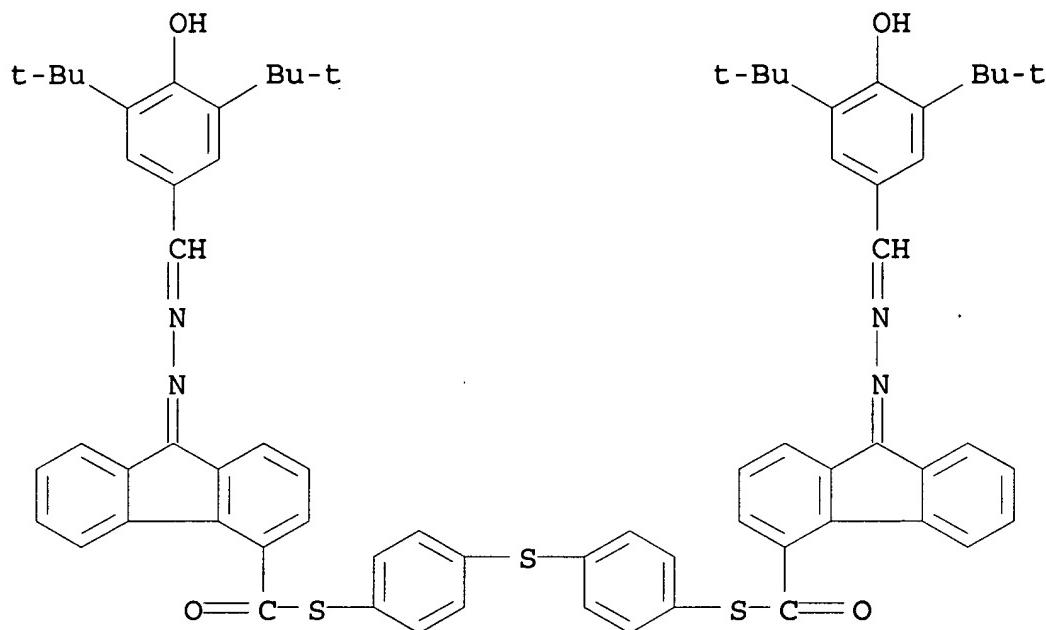
AB The present invention provides organo photoreceptors comprising an elec. conductive substrate and a photoconductive element on the elec. conductive substrate, the photoconductive element comprising:
 (a) a **charge transport** material having the general formula I ($N = 2-6$; $R_{1,2} = H$, alkyl, alkaryl, heterocyclic, aryl group; $R_{3,4} = H$, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone, ether, ester, carbonyl, alkyl, alkaryl, aryl group; $X = (CH_2)_m$; $m = 0-20$; $Y = (CH_2)_p$, arom. group, cycloalkyl group, heterocyclic group, etc.; $p = 0-10$) and (b) a charge generating compd. Corresponding electrophotog. apparatuses and imaging methods (processes) are described, as are corresponding **charge transport** materials.

IT 848668-03-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (organo photoreceptor with **charge transport** material with fluorenone azine groups)

RN 848668-03-1 HCAPLUS**CN** 9H-Fluorene-4-carbothioic acid, 9-[[[3,5-bis(1,1-dimethylethyl)-4-

hydroxyphenyl]methylene]hydrazone]-, S,S'-(thiodi-4,1-phenylene) ester (9CI) (CA INDEX NAME)



- IC ICM G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST electrophotog organo photoreceptor **charge transport** material fluorenone azine
 IT Electrophotographic photoconductors (photoreceptors)
 (organo photoreceptor with **charge transport**
 material with fluorenone azine groups)
 IT 848668-03-1P 848668-04-2P 848668-05-3P
 848668-06-4P 848668-07-5P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (organo photoreceptor with **charge transport**
 material with fluorenone azine groups)
 IT 848668-08-6P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (organo photoreceptor with **charge transport**
 material with fluorenone azine groups)
 IT 93519-65-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of organo photoreceptor with **charge**
transport material with fluorenone azine groups)

IT 848668-01-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (prepn. of organo photoreceptor with **charge**
transport material with fluorenone azine groups)

IT 109-77-3, Malononitrile 111-46-6, Diethylene glycol, reactions
 112-47-0, 1,10-Decanediol 1072-71-5, 1,3,4-Thiadiazolidine-2,5-
 dithione 6223-83-2, Fluorenone-4-carboxylic acid 7071-83-2,
 9-Fluorenone-4-carbonyl chloride 19362-77-7, 4,4'-
 Thiobisbenzenethiol 27205-03-4, Bis[4-(2-
 hydroxyethoxy)phenyl]sulfone 117344-32-8 207226-32-2

RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of organo photoreceptor with **charge**
transport material with fluorenone azine groups)

IT 848668-02-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. of organo photoreceptor with **charge**
transport material with fluorenone azine groups)

L14 ANSWER 6 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1965 HCAPLUS

DOCUMENT NUMBER: 142:103066

TITLE: Azine-based dimeric **charge**
transport materials

INVENTOR(S): Tokarski, Zbigniew; Jubran, Nusrallah; Getautis,
 Vytautas; Gaidelis, Valentas; Daskeviciene,
 Maryte; Montrimas, Edmundas; Paulauskaite,
 Ingrida; Sidaravicius, Jonas

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 20 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

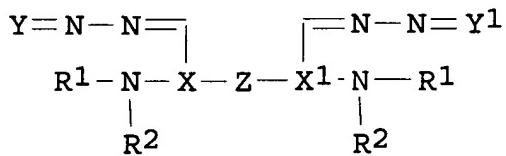
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2004265717	A1	20041230	US 2004-760039	

			200401
			16
EP 1494080	A1	20050105	EP 2004-253868
			200406
			29
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR		
JP 2005025192	A2	20050127	JP 2004-194403
			200406
PRIORITY APPLN. INFO.:			30
		US 2003-483726P	P
			200306
			30
		US 2004-760039	A
			200401
			16

OTHER SOURCE(S) : MARPAT 142:103066
GI



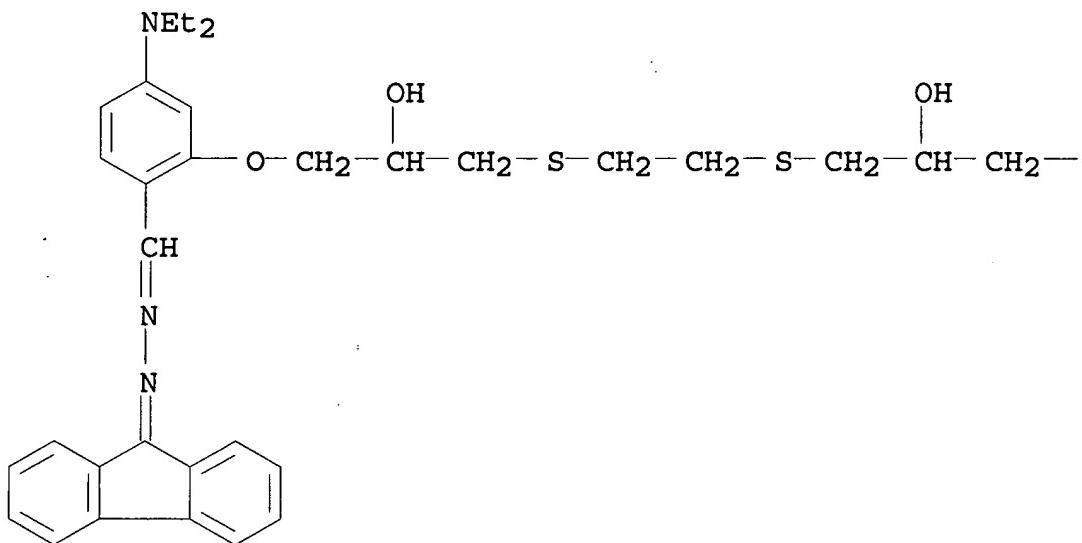
- AB Improved organo photoreceptor comprises an elec. conductive substrate and a photoconductive element on the elec. conductive substrate, the photoconductive element comprising: (a) a **charge transport** material having the formula I (R¹⁻⁴ = alkyl group, alkenyl group, arom. group, heterocyclic group, or a part of a ring group; X and X' = arom. group; Y and Y' = (disubstituted)methylene group; and Z is a linking group); (b) a charge generating compd.; and (c) an elec. conductive substrate on which said **charge transport** material and said charge generating compd. are located. Corresponding electrophotog. apparatuses and imaging methods are also described.
- IT 816463-93-1P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(azine-based dimeric charge transport
materials for electrophotog.)

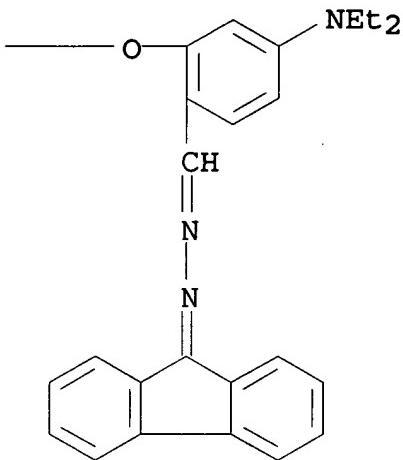
RN 816463-93-1 HCAPLUS

CN Benzaldehyde, 2,2'-[1,2-ethanediylbis[thio(2-hydroxy-3,1-propanediyl)oxy]]bis[4-(diethylamino)-, bis(9H-fluoren-9-ylidenehydrazone) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-06

ICS C07C251-72

INCL 430058350; 430072000; 430077000; 430074000; 430058650; 564251000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)ST azine dimeric electrophotog photoreceptor **charge**
transport materialIT Electrophotographic photoconductors (photoreceptors)
(azine-based dimeric **charge transport**
materials)IT 816463-93-1P 816463-94-2P 816463-95-3P
816463-96-4P 816463-97-5P 816463-98-6P
816463-99-7P 816464-00-3P 816464-01-4P
816464-02-5PRL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(azine-based dimeric **charge transport**
materials for electrophotog.)

IT 2915-84-6P, 2,7-Diamino-9-fluorenone 122010-64-4P 215377-16-5P

816464-03-6P 816464-04-7P 816464-05-8P 816464-07-0P
816464-08-1PRL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(prep. of azine-based dimeric **charge transport**)

materials for electrophotog.)

IT 80-05-7, reactions 90-93-7 106-89-8, Epichlorohydrin, reactions 108-46-3, 1,3-Benzenediol, reactions 486-25-9, 9-Fluorenone 540-63-6, 1,2-Ethanedithiol 626-04-0, 1,3-Benzenedithiol 1072-71-5, 1,3,4-Thiadiazolidine-2,5-dithione 2425-79-8, 1,4-Butanediol diglycidyl ether 17754-90-4, 4-Diethylaminosalicylaldehyde 19362-77-7, 4,4'-Thiobisbenzenethiol 31551-45-8, 2,7-Dinitro-9-fluorenone
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of azine-based dimeric **charge transport** materials for electrophotog.)

IT 13629-22-6P 816464-06-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of azine-based dimeric **charge transport** materials for electrophotog.)

L14 ANSWER 7 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1035121 HCAPLUS *The current Application*
 DOCUMENT NUMBER: 142:29941
 TITLE: Electrophotographic photoreceptors comprising
 azine-based **charge transport** materials
 INVENTOR(S): Jurban, Nusrallah; Law, Kam W.; Tokarski,
 Zbigniew
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 31 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1482377	A1	20041201	EP 2004-253164	200405 28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
US 2004241562	A1	20041202	US 2004-804719	200403 19

JP 2004361951	A2	20041224	JP 2004-162291	
				200405
				31
CN 1601388	A	20050330	CN 2004-10068420	
				200405
				31
PRIORITY APPLN. INFO.:			US 2003-474543P	P
				200305
				30
			US 2003-483727P	P
				200306
				30
			US 2004-804719	A
				200403
				19

OTHER SOURCE(S) : MARPAT 142:29941

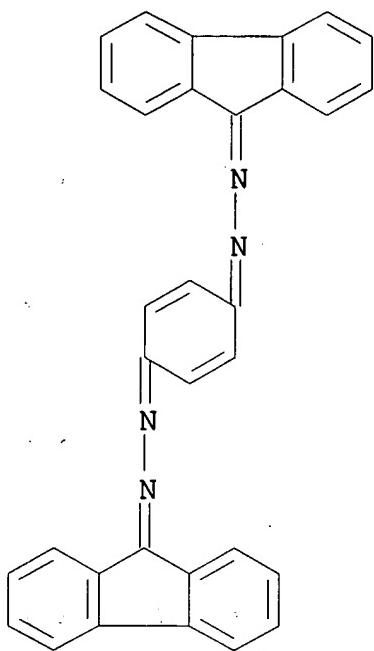
AB The present invention provides organophotoreceptors comprising an elec. conductive substrate and a photoconductive element on the elec. conductive substrate where the photoconductive element comprises: (a) a **charge transport** material having the formula (1): Y=N-N=X=N-N=Y₁ (Y, Y₁ = 9-fluorenylidene; X = conjugated linking group that allows the delocalization of pi electrons over at least Y and Y₁, such as 1,2-ethanediylidene, 1,4-phenylenedimethylidyne, 2,4-cyclohexadienylidene, 2,5-cyclohexadienylidene, bicyclohexylidene-2,5,2',5'-tetraene, bicyclohexylidene-2,4,2',4'-tetraene); and (b) a charge generating compd. Corresponding electrophotog. apparatuses, imaging methods and processes, and **charge transport** materials are described. This invention aims to provide organophotoreceptors having good electrostatic properties such as high V_{acc} and low V_{dis}.

IT 801221-45-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charge transport material; electrophotog.
 photoreceptors comprising azine-based **charge transport** materials)

RN 801221-45-4 HCPLUS

CN 2,5-Cyclohexadiene-1,4-dione, bis(9H-fluoren-9-ylidenehydrazone)
 (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS C07C251-88

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoreceptor azine **charge transport** material

IT Electrophotographic photoconductors (photoreceptors)
(electrophotog. photoreceptors comprising azine-based charge transport materials)

IT 801221-45-4P 801221-46-5P 801221-47-6P
801221-48-7P 801221-49-8P 801221-50-1P
801221-51-2P 801221-52-3P 801221-53-4P
801221-54-5P 801221-55-6P 801221-56-7P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charge transport material; electrophotog. photoreceptors comprising azine-based **charge transport** materials)

IT 5447-75-6P 13629-22-6P, 9-Fluorenone hydrazone 93376-18-2P
93519-65-4P 801221-57-8P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **charge transport** material)

IT 64-17-5, Ethyl alcohol, reactions 71-36-3, n-Butanol, reactions 106-51-4, 1,4-Benzoquinone, reactions 109-77-3, Malononitrile 302-01-2, Hydrazine, reactions 486-25-9, 9-Fluorenone 527-17-3, Duroquinone 527-61-7, 2,6-Dimethyl-1,4-benzoquinone 4906-22-3, 3,3',5,5'Tetramethyldiphenoquinone 6223-83-2, 9-Fluorenone-4-carboxylic acid

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **charge transport** material)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:855504 HCAPLUS

DOCUMENT NUMBER: 139:356036

TITLE: Sulfonyldiphenylene based **charge transport** compositions

INVENTOR(S): Law, Kam W.; Jubran, Nusrallah; Tokarski, Zbigniew

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., USA

SOURCE: U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

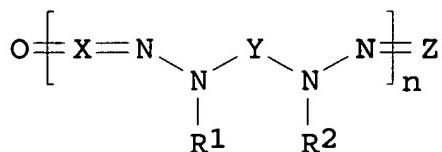
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2003203297	A1	20031030	US 2003-382393	200303 06
US 6815133	B2	20041109		
KR 2003081184	A	20031017	KR 2003-23220	200304 12
US 2005123848	A1	20050609	US 2004-954454	200409 30
PRIORITY APPLN. INFO.:			US 2002-372293P	P
				200204 12
			US 2003-382393	A3

200303
06

GI



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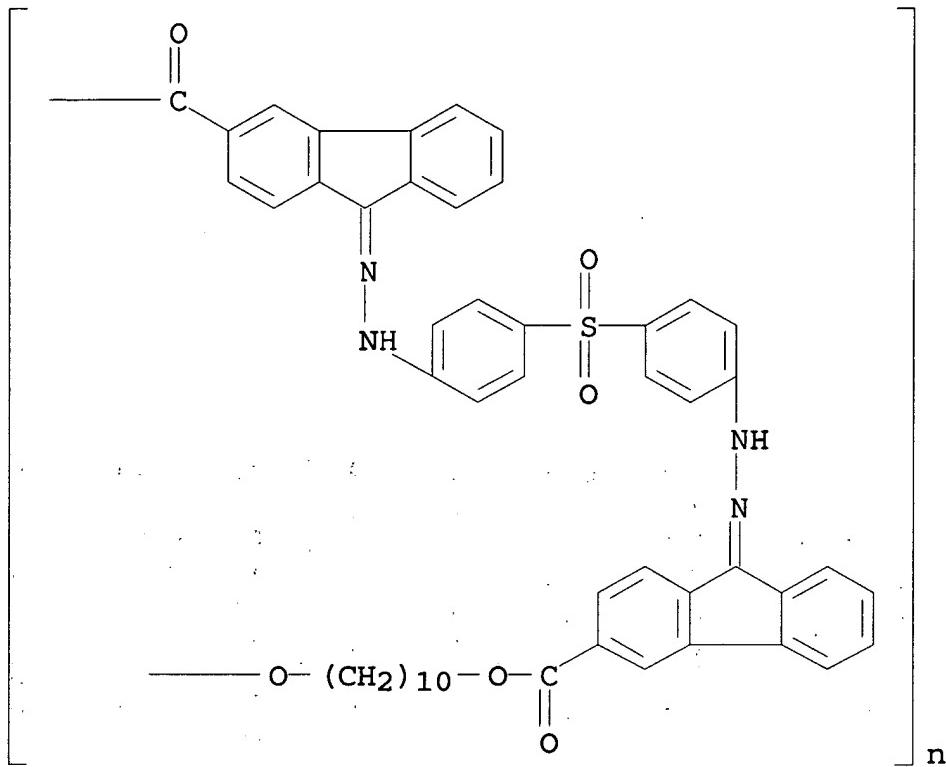
- AB This invention relates to a electrophotog. organo photoreceptor that includes: (a) a **charge transport** compn. comprising mols. having the formula I ($n = 1-1000$; $\text{R}_1, 2 = \text{H, C}_1-30$ alkyl group, unsatd. hydrocarbon group, ether group, cycloalkyl group (e.g. a cyclohexyl group), aryl group (e.g., a Ph or naphthyl group); $\text{X} = \text{bis}(\text{fluorene-4-carboxyl})\text{alkane}$ group; $\text{Y} = \text{a divalent sulfonyldiphenylene group}$; $\text{Z} = \text{X=O}$ where X is double-bonded to the adjacent N or two hydrogens where each hydrogen is independently single-bonded to the adjacent N; and $\text{Q} = \text{O, N-N}(\text{R}1)-\text{Y-N}(\text{R}2)-\text{NH}_2$; (b) a charge generating compd.; and (c) an elec. conductive substrate over which said **charge transport** compn. and said charge generating compd. are located.

IT 618437-88-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(oligomeric; sulfonyldiphenylene based **charge transport** compns. for electrophotog. photoreceptors)

RN 618437-88-0 HCPLUS

CN Poly(oxy-1,10-decanediylloxycarbonyl-9H-fluoren-3-yl-9-ylidene-2-hydrazinyl-1-ylidene-1,4-phenylenesulfonyl-1,4-phenylene-1-hydrazinyl-2-ylidene-9H-fluoren-3-yl-9-ylidene carbonyl) (9CI) (CA INDEX NAME)



IC ICM G03G005-047

ICS C07C251-24

INCL 430058450; 430072000; 430117000; 564251000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog organo photoreceptor sulfonyldiphenylene charge transport compn

IT Polysulfones, preparation

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyazomethine-polyester-; sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)

IT Polyesters, preparation

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyazomethine-polysulfone-; sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)

- IT Polyazomethines
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyester-polysulfone-; sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)
- IT Electrophotographic photoconductors (photoreceptors)
 (sulfonyldiphenylene based charge transport compns. for)
- IT 618437-86-8P 618437-88-0P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (oligomeric; sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)
- IT 618437-87-9P 618437-89-1P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (oligomeric; sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)
- IT 575464-91-4P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)
- IT 112-47-0, 1,10-Decanediol 629-41-4, 1,8-Octanediol 7071-83-2,
 9-Fluorenone-4-carbonyl chloride 14052-65-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)
- IT 575464-92-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. of sulfonyldiphenylene based charge transport compns. for electrophotog. photoreceptors)

L14 ANSWER 9 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:626451 HCAPLUS
 DOCUMENT NUMBER: 139:171235
 TITLE: Electrophotographic organo-photoreceptors with
 novel charge transport
 materials
 INVENTOR(S): Law, Kam W.; Jubran, Nusrallah; Tokarski,
 Zbigniew; Katritzky, Alan R.; Jain, Ritu;
 Maimait, Rexiat
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 1 p.

CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1335250	A1	20030813	EP 2003-250767	200302 06
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2003198880	A1	20031023	US 2003-349811	200301 22
US 6905804	B2	20050614		
KR 2003068044	A	20030819	KR 2003-7430	200302 06
CN 1445615	A	20031001	CN 2003-122659	200302 08
JP 2003270828	A2	20030925	JP 2003-32833	200302 10
JP 3704126	B2	20051005		
US 2005123849	A1	20050609	US 2004-983020	200411 05
PRIORITY APPLN. INFO.:			US 2002-355018P	P 200202 08
			US 2002-355019P	P 200202 08
			US 2002-355047P	P 200202 08
			US 2002-355060P	P

JDote 10/804,719

Page 31

200202
08

US 2002-355066P P
200202
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US 2002-355073P P
200202
08

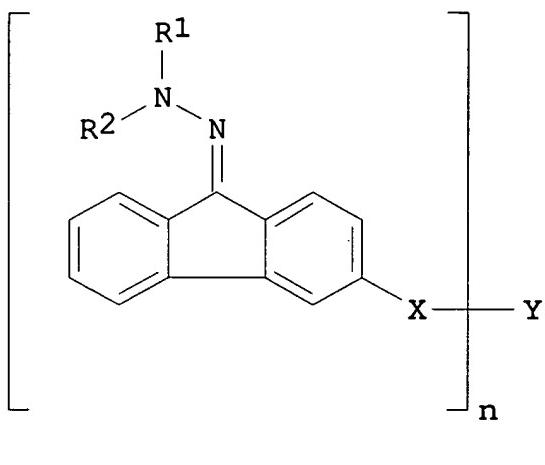
US 2002-355079P P
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US 2002-355080P P
200202
08

US 2002-355228P P
200202
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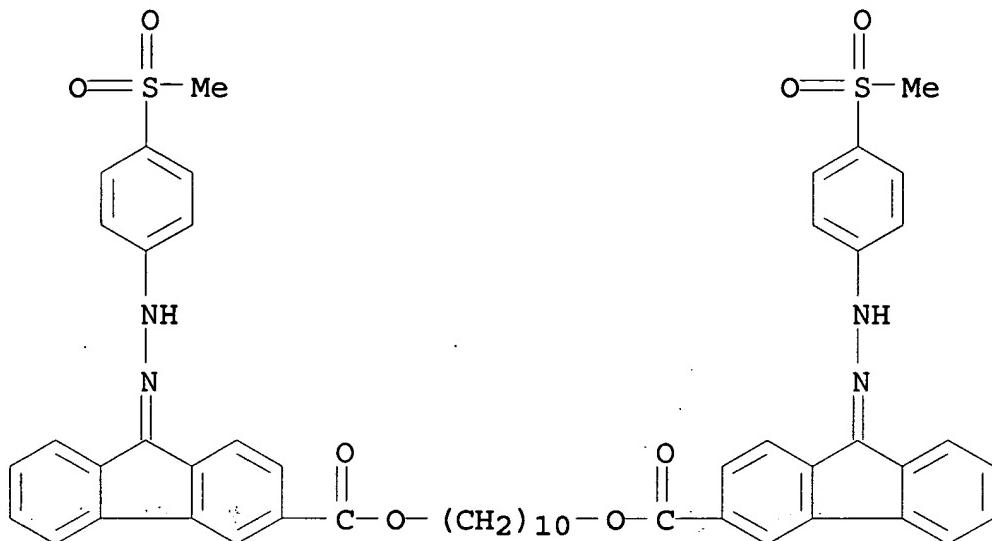
US 2003-349811 A3
200301
22

OTHER SOURCE(S) : MARPAT 139:171235
GI



- AB** This invention relates to a novel organo-photoreceptor comprising:
 (a) at least one **charge transport** material
 comprising a fluorenone hydrazone having a combination of groups thereon, the combination of groups being selected from the group consisting of (a) at least two fluorenone alkylsulfonylphenylhydrazone groups, (b) at least two fluorenone pyrrolylhydrazone groups, (c) at least two fluorenone benzotriazolylhydrazone groups, (d) at least two fluorenone sulfolanylhydrazone groups, (e) at least two fluorenone pyrazolylhydrazone groups, (f) at least two fluorenone naphthylhydrazone groups, (g) at least two fluorenone tetrazolylhydrazone groups, (h) at least two fluorenone stilbenylhydrazone groups, and (i) at least two fluorenone (9H-fluoren-9-ylidene)benzylhydrazone groups. Some of these fluorenones may be represented by the formula I (n = integer 2-6; R1 = hydrogen, an alkyl group, aryl group; R3 = alkylsulfonylphenyl; X = linking group having the formula -(CH₂)_m-, branched or linear; m = integer 0-20; Y = bond, C, N, O, etc.). The compds. may form electrostatic imaging systems in combination with (b) a charge generating compd.; and (c) an elec. conductive substrate.
- IT** 575464-93-6P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charge transport materials in electrophotog. photoreceptor)
- RN** 575464-93-6 HCPLUS
 CN 9H-Fluorene-3-carboxylic acid, 9-[[4-(methylsulfonyl)phenyl]hydrazon

o] -, 1,10-decanediyl ester (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS C07D333-48; C07C251-84; C07C317-34; C07D249-18; C07D231-38;
C07D257-06; C07D207-34

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

ST electrophotog photoreceptor **charge transport**

IT Electrophotographic photoconductors (photoreceptors)
(electrophotog. organo-photoreceptors with novel **charge**
transport materials)

IT 71-36-3, Butanol, reactions 94-97-3, 5-Chlorobenzotriazole
100-63-0, Phenylhydrazine 109-77-3, Malononitrile 112-47-0,
1,10-Decanediol 482-05-3, Diphenic acid 629-41-4, 1,8-Octanediol
1229-71-6 4714-23-2, p-Chlorostilbene 17852-67-4,
4-(Methylsulfonyl)phenylhydrazine hydrochloride 28452-93-9,
Butadiene sulfone 32907-54-3 53455-99-5 73788-51-9.

RL: RCT (Reactant); RACT (Reactant or reagent)
(**charge transport** materials in electrophotog.
photoreceptor)

IT 14530-12-2P 17473-80-2P 38570-92-2P 88104-40-9P 96063-03-5P
152032-40-1P 211243-79-7P 496044-70-3P 496044-71-4P
575464-90-3P 575464-91-4P 575464-92-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(**charge transport** materials in electrophotog.

photoreceptor)

IT 575464-93-6P 575464-94-7P 575464-95-8P
 575464-96-9P 575464-97-0P 575464-98-1P
 575464-99-2P 575465-00-8P 575465-01-9P
 575465-02-0P 575465-03-1P 575465-04-2P
 575465-05-3P 575465-06-4P 575465-07-5P
 575465-08-6P 575465-09-7P 575465-10-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(charge transport materials in electrophotog.
 photoreceptor)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 10 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:373831 HCAPLUS

DOCUMENT NUMBER: 138:376371

TITLE: Electrophotographic organophotoreceptors containing bis(fluorenyl)-1,1'-(sulfonyldi-4,1-phenylene)bishydrazone as charge-transporting agents

INVENTOR(S): Law, Kam W.; Jubran, Nusrullah; Tokarski, Zbigniew; Katritzky, Alan R.; Jain, Ritu

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1310483	A1	20030514	EP 2002-257675	200211 06
EP 1310483	B1	20060222		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2003138712	A1	20030724	US 2002-289233	200211 06
US 6696209	B2	20040224		

KR 2003039311	A	20030517	KR 2002-69417	
				200211
				09
CN 1430105	A	20030716	CN 2002-154234	
				200211
				09
JP 2003202688	A2	20030718	JP 2002-327099	
				200211
				11
JP 3724738	B2	20051207		
PRIORITY APPLN. INFO.:			US 2001-336999P	P
				200111
				09

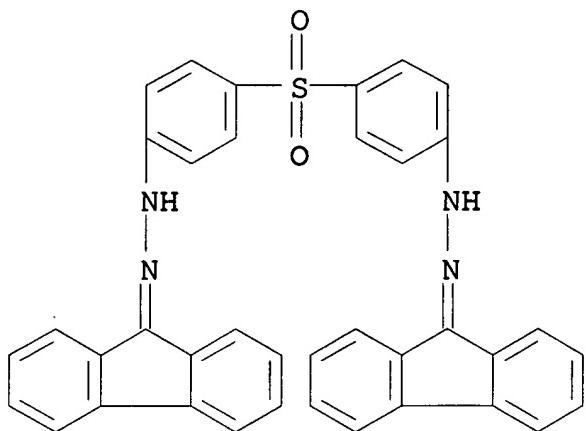
OTHER SOURCE(S) : MARPAT 138:376371

AB An electrophotog. photoreceptor is characterized by contg. a **charge-transporting** agent having formula R1C:NN(R3)XN(R4)N:CR2 (R1, R2 = fluorenyl group or deriv. thereof; R3, R4 = H, alkyl, aryl, heterocyclic group; X = sulfonyldiphenylene group or deriv. thereof). The electrophotog. photoreceptor comprises (a) the **charge-transporting** agent, (b) a charge-generating compd., and (c) an elec. conductive substrate.

IT 524724-56-9P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
 PREP (Preparation); USES (Uses)
 (bis(fluorenyl)-1,1'-(sulfonyldi-4,1-phenylene)bishydrazone-
 contg. **charge-transporting** agents for
 photoreceptors)

RN 524724-56-9 HCAPLUS

CN 9H-Fluoren-9-one, (sulfonyldi-4,1-phenylene)dihydrazone (9CI) (CA INDEX NAME)



- IC ICM C07C317-34
 ICS G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST electrophotog photoreceptor bis fluorenly sulfonyldiphenylene bishydrazone **charge transporting agent**
- IT Electrophotographic photoconductors (photoreceptors)
 (electrophotog. organophotoreceptors contg. bis(fluorenly)-1,1'-(sulfonyldi-4,1-phenylene)bishydrazones as **charge-transporting agents**)
- IT 524724-56-9P 524724-57-0P 524724-58-1P
 524724-59-2P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
 PREP (Preparation); USES (Uses)
 (bis(fluorenly)-1,1'-(sulfonyldi-4,1-phenylene)bishydrazone-
 contg. **charge-transporting agents** for
 photoreceptors)
- IT 94302-83-7P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (prepn. of bis(fluorenly)-1,1'-(sulfonyldi-4,1-
 phenylene)bishydrazone-contg. **charge-
 transporting agents**)
- IT 71-41-0, n-Amyl alcohol, reactions 486-25-9, 9-Fluorenone
 7071-83-2, 9-Fluorenone-4-carbonyl chloride 14052-65-4
 18158-43-5, 2-Dimethylamino-9-fluorenone 93519-67-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of bis(fluorenly)-1,1'-(sulfonyldi-4,1-
 phenylene)bishydrazone-contg. **charge-**

transporting agents)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1990:169080 HCAPLUS
 DOCUMENT NUMBER: 112:169080
 TITLE: Electrophotographic photoreceptors containing a bisazo compound carrier-generating agent
 INVENTOR(S): Kono, Toshio; Suda, Osamu; Umezaki, Tetsuhiro; Hasegawa, Masaru; Tanaka, Norio; Sekino, Toshifumi
 PATENT ASSIGNEE(S): Dainichiseika Color and Chemicals Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01180554	A2	19890718	JP 1988-3740	198801 13
PRIORITY APPLN. INFO.:			JP 1988-3740	198801 13

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Electrophotog. photoreceptors have a photosensitive layer contg. a bisazo compd. I [R = arom. cyclic group Q1, naphthalene group Q2; X = (substituted) arom. cyclic hydrocarbon or arom. heterocycle; R2 = NR3R4, NHNR5R6, NHN:CR7R8; R3-8 = H, (substituted) alkyl, aryl, aralkyl, heterocycle; N or C may form a ring with R3-4, R5-6, or R7-8; R1 = H, halo, CN, NO₂, (substituted) alkyl, alkoxy, amino; n =

0-5]. The photoreceptors exhibit good electrophotog. properties and durability. Thus, an Al substrate was coated with a compn. contg. bisazo pigment II and Vylon 200 (polyester resin) and overcoated with a compn. contg. p-diethylaminobenzaldehyde-N-phenyl-N-benzylhydrazone and Panlite L-1250 (polycarbonate resin) to give a photoreceptor. The initial potential, potential retentivity after 10 s in the dark, and exposure required to halve the retained potential were -870 V, 89%, and 2.3 lx-s, resp.

IT

126203-61-0

RL: TEM (Technical or engineered material use); USES (Uses)
(charge-generating agent, for electrophotog. photoconductor)

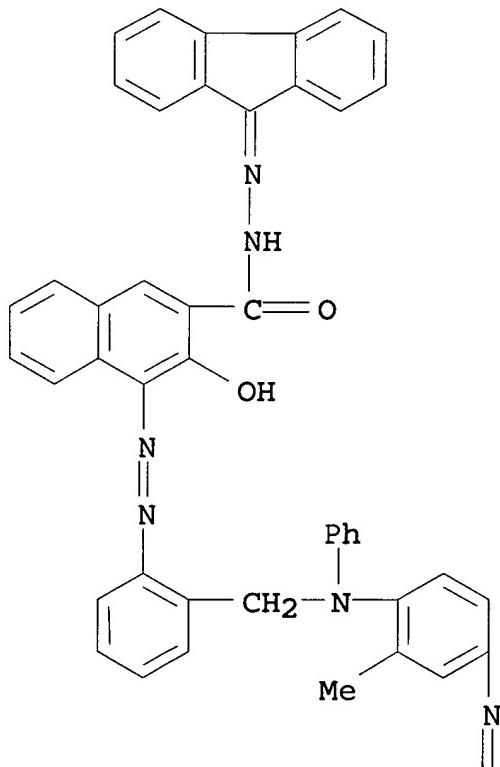
RN

126203-61-0 HCAPLUS

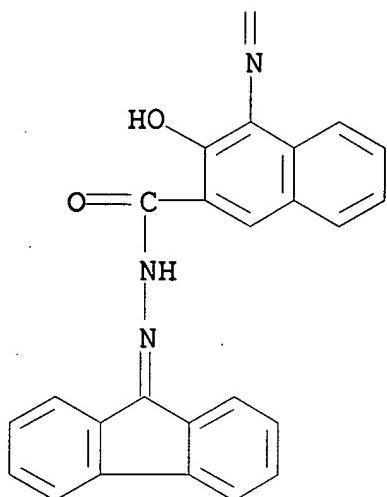
CN

2-Naphthalenecarboxylic acid, 4-[[2-[[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]-2-hydroxy-1-naphthalenyl]azo]-2-methylphenyl]phenylamino]methyl]phenyl]azo]-3-hydroxy-, 9H-fluoren-9-ylidenehydrazide (9CI) (CA INDEX NAME)

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IC ICM G03G005-06
 ICS C09B035-039

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 25

IT 126203-49-4 126203-50-7 126203-51-8 126203-52-9 126203-53-0
 126203-54-1 126203-55-2 126203-56-3 126203-57-4 126203-58-5
 126203-59-6 126203-60-9 126203-61-0 126203-62-1
 126203-63-2 126203-64-3 126203-65-4 126203-66-5 126245-55-4
 126245-56-5 126245-57-6 126245-58-7

RL: TEM (Technical or engineered material use); USES (Uses)
 (charge-generating agent, for electrophotog. photoconductor)

IT 32444-53-4, 2,5-Bis(p-N,N-dimethylaminophenyl)-1,3,4-oxadiazole
 73276-70-7 73276-71-8, p-Diethylaminobenzaldehyde-N-phenyl-N-
 benzylhydrazone

RL: USES (Uses)
 (charge-transporting agent, for
 electrophotog. photoconductor contg. bisazo compd.)

L14 ANSWER 12 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:104883 HCPLUS

DOCUMENT NUMBER: 110:104883

TITLE: Electrophotographic photoreceptor containing
 disazo pigment

INVENTOR(S): Takai, Hideyuki; Kikuchi, Norihiro

PATENT ASSIGNEE(S) :

Canon K. K., Japan

SOURCE:

Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

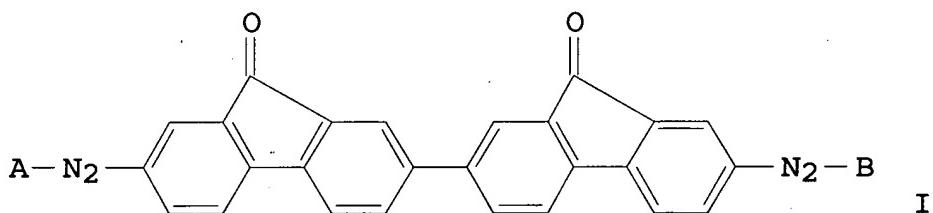
Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63148266	A2	19880621	JP 1986-294718	198612 12
PRIORITY APPLN. INFO.:				JP 1986-294718 198612 12

GI



AB A photosensitive layer of the title photoreceptor contains a disazo pigment I (A, B = coupler moiety contg. phenolic OH), for improvement of **charge** generation and **transportation** improvement.

IT 118524-33-7

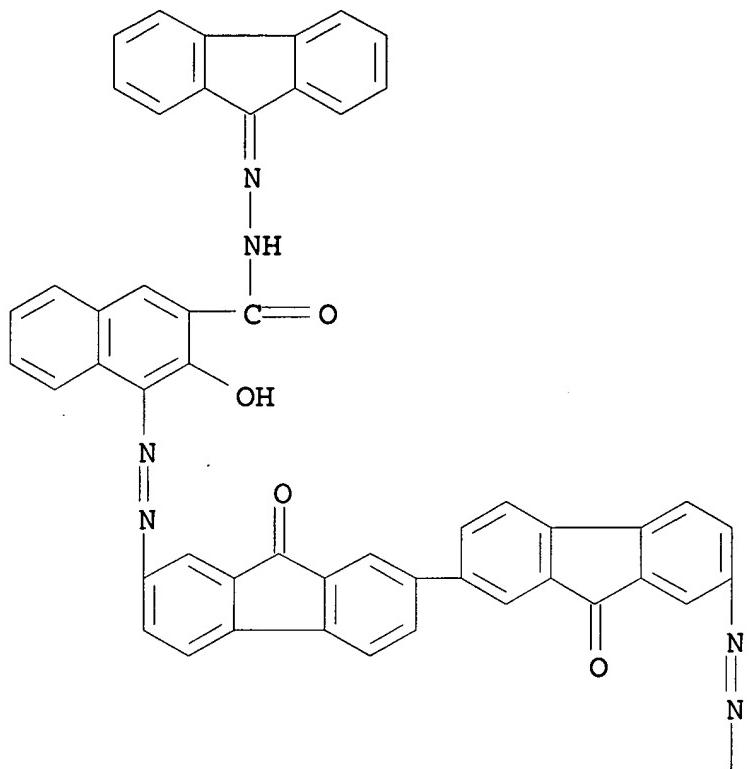
RL: USES (Uses)

(disazo pigment, electrophotog. photoreceptor contg.)

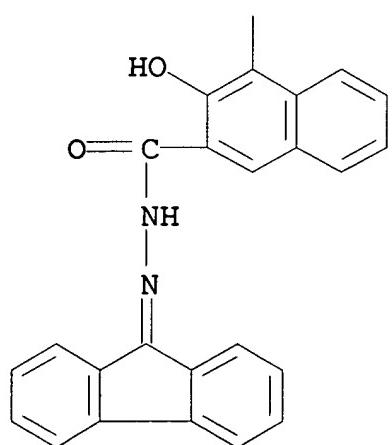
RN 118524-33-7 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(9,9'-dioxa[2,2'-bi-9H-fluorene]-7,7'-diyl)bis(azo)bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)

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IC ICM G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 IT 118524-25-7 118524-26-8 118524-27-9 118524-28-0 118524-29-1
 118524-30-4 118524-31-5 118524-32-6 **118524-33-7**
 118524-34-8 118524-35-9 118524-36-0 118524-37-1 118524-38-2
 118524-39-3 118524-40-6 118524-41-7 118524-42-8 118524-43-9
 118524-44-0 118524-45-1 118543-13-8 118543-14-9 118543-15-0
 118543-16-1 118543-17-2 119099-96-6
 RL: USES (Uses)
 (disazo pigment, electrophotog. photoreceptor contg.)

L14 ANSWER 13 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:66840 HCPLUS

DOCUMENT NUMBER: 110:66840

TITLE: Electrophotographic photoreceptor containing
 disazo pigment in photoconductor layer

INVENTOR(S): Matsumoto, Masakazu; Ishikawa, Shozo

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

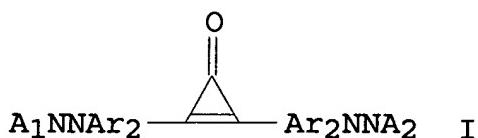
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63108341	A2	19880513	JP 1986-253849	198610 27
JP 08003642	B4	19960117	JP 1986-253849	198610 27

PRIORITY APPLN. INFO.:

GI



AB The title photoreceptor contains a disazo pigment of the formula (I) (Ar₁, Ar₂ = divalent arom. or heterocyclic arom. moiety capable of having substituents; A₁, A₂ = a coupler moiety having phenolic OH) in a photoconductor layer comprising charge-generating and **charge-transporting** layers. Preferably, the pigment is contained in the charge-generating layer. The disazo pigment gives high carrier generation efficiency.

IT 118666-85-6

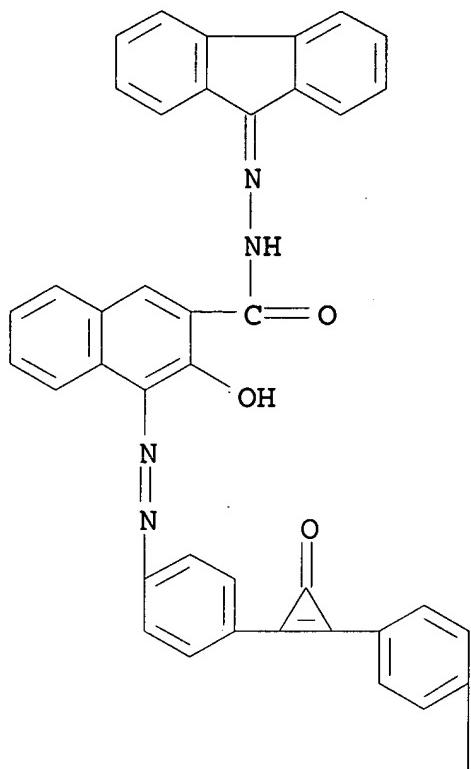
RL: USES (Uses)

(charge-generating layer contg., in electrophotog. photoreceptor)

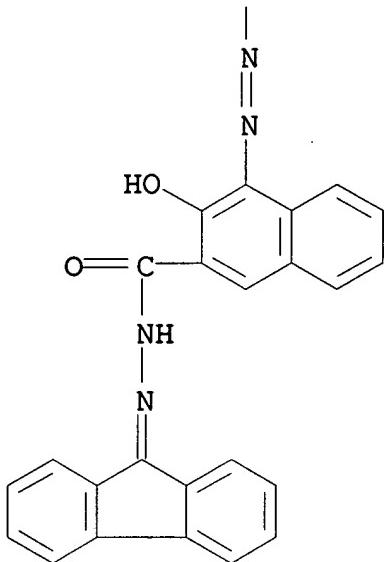
RN 118666-85-6 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(3-oxo-1-cyclopropene-1,2-diyl)bis(4,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT	118666-36-7	118666-47-0	118666-48-1	118666-49-2	118666-50-5
	118666-51-6	118666-52-7	118666-53-8	118666-54-9	118666-55-0
	118666-75-4	118666-76-5	118666-77-6	118666-78-7	118666-79-8
	118666-80-1	118666-81-2	118666-82-3	118666-83-4	118666-84-5
	118666-85-6	118666-86-7	118666-87-8	118666-88-9	
	118666-89-0	118666-90-3	118666-91-4	118666-92-5	118666-93-6

RL: USES (Uses)

(charge-generating layer contg., in electrophotog. photoreceptor)

L14 ANSWER 14 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:580363 HCAPLUS

DOCUMENT NUMBER: 109:180363

TITLE: Electrophotographic photoreceptors containing
trisazo pigmentsINVENTOR(S): Matsumoto, Masakazu; Takiguchi, Takao; Takai,
Hideyuki

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

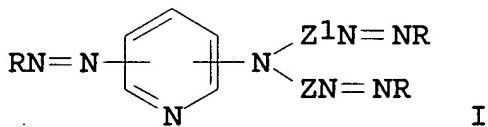
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63027850	A2	19880205	JP 1986-172580	198607 22
JP 04080386	B4	19921218		
US 4810607	A	19890307	US 1987-73221	198707 14
PRIORITY APPLN. INFO.: JP 1986-172580 A				198607 22

GI



AB The title electrophotog. photoreceptors contain a trisazo pigment I (Z, Z1 = divalent pyridine moiety, arylene; R = phenolic OH group-contg. coupler moiety). The photoreceptors show good sensitivity toward visible and near IR light and hence can be used in conventional copying machines and semiconductor laser printers.

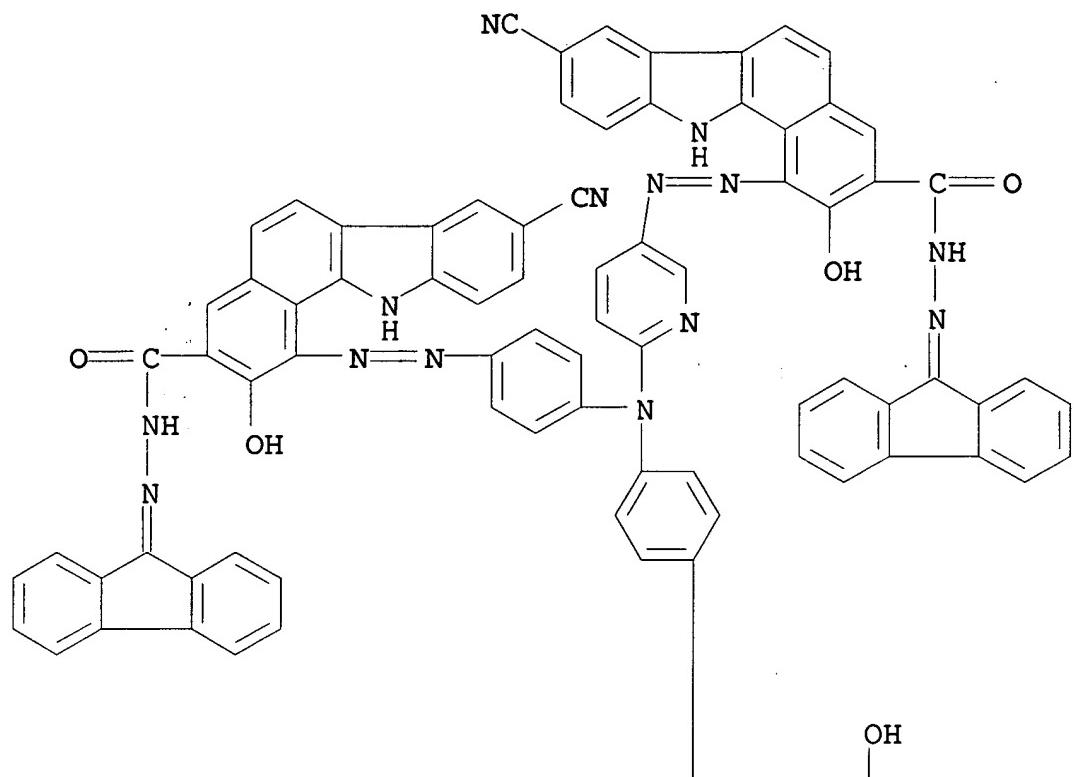
IT 116995-09-6

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. charge carrier-generating pigment)

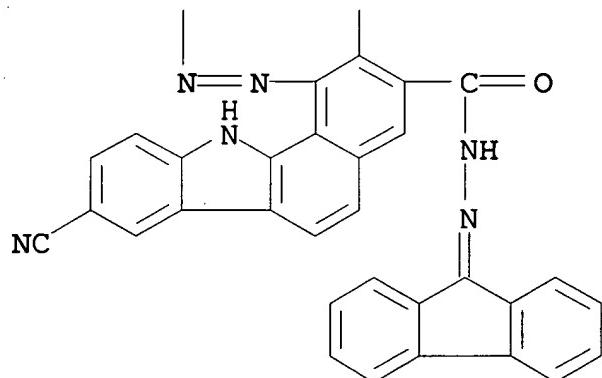
RN 116995-09-6 HCAPLUS

CN 11H-Benzo[a]carbazole-3-carboxylic acid, 1,1'-[[[5-[[8-cyano-3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]-2-hydroxy-11H-benzo[a]carbazol-1-yl]azo]-2-pyridinyl]imino]bis(4,1-phenyleneazo)]bis[8-cyano-2-hydroxy- (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

MEI HUANG EIC1700 REM4B28 571-272-3952

03/03/2006

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

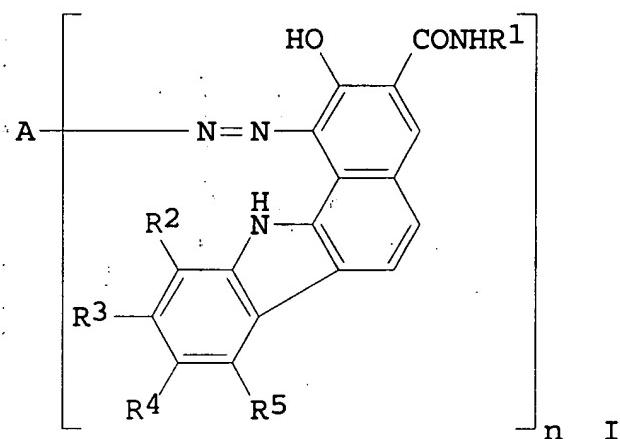
IT 116994-99-1 116995-00-7 116995-01-8 116995-02-9 116995-03-0
 116995-04-1 116995-05-2 116995-06-3 116995-07-4 116995-08-5
116995-09-6 116995-10-9 116995-11-0 116995-12-1
 116995-13-2 116995-14-3 116995-15-4 116995-16-5 116995-17-6
 117008-58-9 117008-59-0 117008-60-3 117008-61-4 117008-62-5
 117008-63-6 117008-64-7 117008-65-8 117008-66-9 117008-67-0
 117008-68-1 117008-69-2 117008-70-5 117008-71-6 117008-72-7
 117008-73-8 117008-74-9 117008-75-0 117008-76-1 117008-77-2
 117008-78-3 117008-79-4 117008-80-7 **117008-81-8**
 117008-82-9 117008-84-1 117008-85-2 117036-80-3 117036-81-4
 117036-82-5 117036-83-6 117036-84-7 117036-85-8 117539-81-8
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrophotog. charge carrier-generating pigment)

IT 129-79-3, 2,4,7-Trinitro-9-fluorenone 25067-59-8,
 Poly(N-vinylcarbazole) 74677-70-6 83890-47-5 89115-10-6
 90884-11-0
 RL: USES (Uses)
 (electrophotog. charge carrier-transporting agent)

L14 ANSWER 15 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1988:29377 HCPLUS
 DOCUMENT NUMBER: 108:29377
 TITLE: Electrophotographic photoreceptors
 INVENTOR(S): Matsumoto, Masakazu; Umehara, Masashige;
 Takiguchi, Takao; Ishikawa, Shozo
 PATENT ASSIGNEE(S): Canon K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 151 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62147463	A2	19870701	JP 1985-288179	198512 20
JP 05049229	B4	19930723		
PRIORITY APPLN. INFO.:			JP 1985-288179	198512

GI



AB The claimed electrophotog. photoreceptor contains a compd. of the formula I ($A = \text{an arom. or heterocyclic moiety}$; $R1 = \text{alkyl, aryl, aralkyl, } N:\text{CR}6\text{R}7$; $R2-R5 = H, \text{halo, OH, NO}_2, \text{CF}_3, \text{CN, alkyl, alkoxy, aryl, aralkyl, NH}_2$; $R6, R7 = H, \text{alkyl, aralkyl, heterocyclyl}$; $R2R3, R3R4, R4R5$, and $R6R7$ in combination may form rings; $n = 2-4$). The photoreceptor shows excellent sensitivity in the visible and near IR region; hence it is useful for laser printers and copiers.

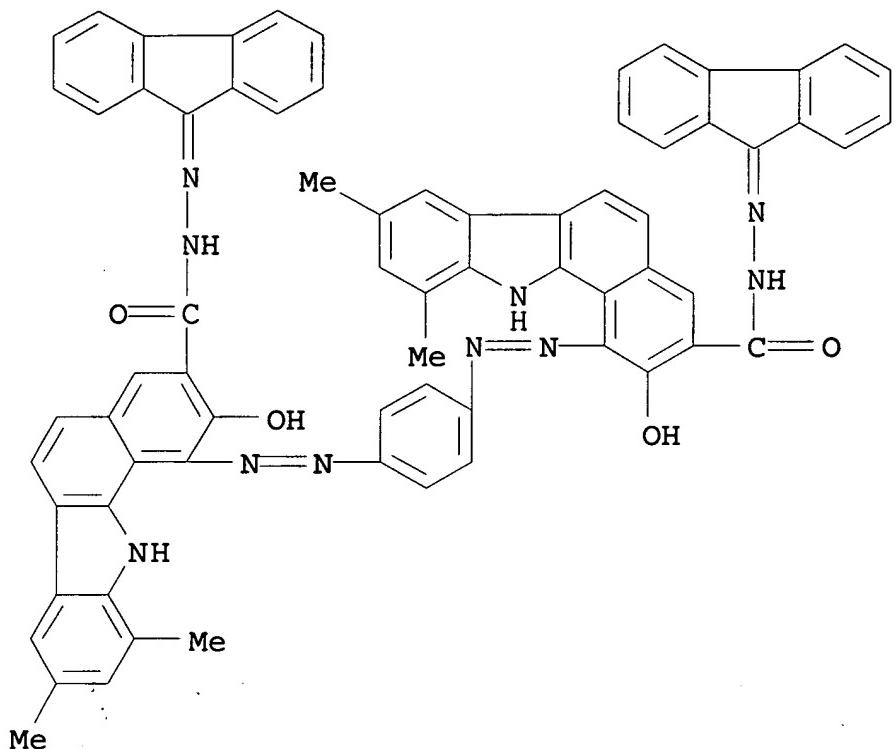
IT 111785-34-3

RL: USES (Uses)

(electrophotog. charge carrier generating pigments)

RN 111785-34-3 HCAPLUS

CN 11H-Benzo[a]carbazole-3-carboxylic acid, 1,1'-(1,4-phenylenebis(azo))bis[2-hydroxy-8,10-dimethyl-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT	111785-00-3	111785-01-4	111785-02-5	111785-03-6	111785-04-7
	111785-05-8	111785-06-9	111785-07-0	111785-08-1	111785-09-2
	111785-10-5	111785-11-6	111785-12-7	111785-13-8	111785-14-9
	111785-15-0	111785-16-1	111785-17-2	111785-18-3	111785-19-4
	111785-20-7	111785-21-8	111785-22-9	111785-23-0	111785-24-1
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RL: USES (Uses)

(electrophotog. charge carrier generating pigments),

IT 129-79-3, 2,4,7-Trinitrofluorenone 25067-59-8,
 Poly(N-vinylcarbazole) 74677-70-6 83890-47-5 90884-11-0
 91175-21-2

RL: USES (Uses)

(electrophotog. charge carrier-transporting
agent)

L14 ANSWER 16 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:431162 HCAPLUS

DOCUMENT NUMBER: 107:31162

TITLE: Photosensitive recording material for
electrophotographyINVENTOR(S): Yamashita, Masataka; Takiguchi, Takao; Umehara,
Shoji; Matsumoto, Masakazu; Ishikawa, Shozo

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Ger. Offen., 218 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 3610994	C2	19890824		
JP 61228453	A2	19861011	JP 1985-69722	
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JP 04002944	B4	19920121		
JP 61251861	A2	19861108	JP 1985-69721	
				198504 02
JP 03069104	B4	199111030		
JP 61251864	A2	19861108	JP 1985-90452	
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JP 03070219	B4	19911106		
JP 61251866	A2	19861108	JP 1985-92286	
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JP 03070217	B4	19911106		
JP 61260250	A2	19861118	JP 1985-101513	
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JP 03070218	B4	19911106		
JP 61269164	A2	19861128	JP 1985-110097	
				198505 24
JP 04017428	B4	19920325		
US 4743523	A	19880510	US 1986-844887	
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GB 2176019	A1	19861210	GB 1986-8077	
				198604 02
GB 2176019	B2	19891018		
FR 2584204	A1	19870102	FR 1986-4694	
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FR 2584204	B1	19900720		
PRIORITY APPLN. INFO.:			JP 1985-69721	A
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JP 1985-69722

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JP 1985-101513

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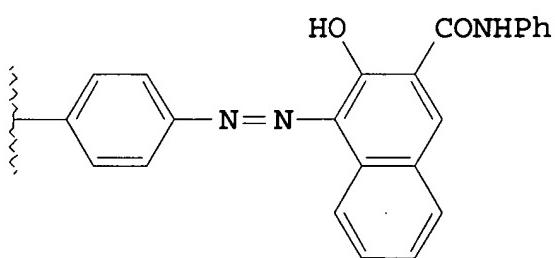
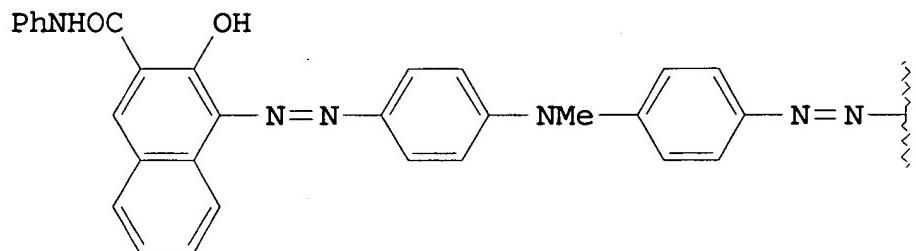
198505
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JP 1985-110097

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GI



AB Composite electrophotog. photoreceptors having outstanding

sensitivity and durability contain a charge carrier-generating layer contg. an azo pigment of the formula R1N:NZ(N:NZ)nNRZN:NZN:NR1, R1N:NZNRZN:NR1, R1N:NZCH:CHZNRZN:NZN:NR1, R1N:NZ(CH:CHZ)nNRZCH:CHZN:NR1, R1N:NZNRZNRZN:NR1, or R1N:NZN(ZN:NR1)ZNR2ZN:NR1 (R = alkyl, aralkyl, aryl, or acyl; R1 = a coupling component contg. a phenolic OH group; R2 = H, nitroso, or R; Z = arylene or a divalent heterocyclic group). A casein-coated Al plate was coated with a dispersion contg. I, poly(vinyl butyral), and EtOH and dried to give a charge carrier-generating layer and then with a soln. contg. p-diethylaminobenzaldehyde N-(1-naphthyl)-N-phenylhydrazone, poly(Me methacrylate), and benzene to give a **charge-transporting** layer to give a photoreceptor that showed a surface potential of -580 V and a half-decay exposure photosensitivity of 4.0 lx-s when given a static corona charge of -5 kV.

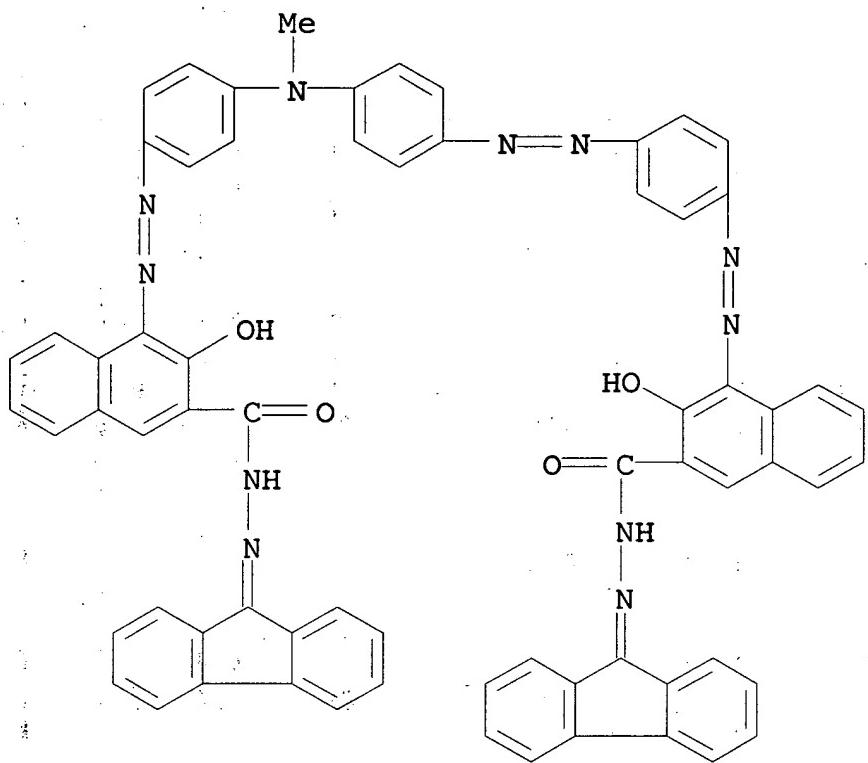
IT 107789-28-6

RL: USES (Uses)

(electrophotog. composite photoreceptor with charge carrier-generating layer contg.)

RN 107789-28-6 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4-[[4-[[4-[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]-2-hydroxy-1-naphthalenyl]azo]phenyl]azo]p-phenyl]methylamino]phenyl]azo]-3-hydroxy-, 9H-fluoren-9-ylidenehydrazide (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G005-14; C09B035-56; C09B035-378; C09B035-36; C09B035-023

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

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RL: USES (Uses)

(electrophotog. composite photoreceptor with charge carrier-generating layer contg.)

L14 ANSWER 17 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:224445 HCPLUS

DOCUMENT NUMBER: 106:224445

TITLE: Electrophotographic charge-generating azo-photoconductors

INVENTOR(S): Matsumoto, Masakazu; Umebara, Masashige; Takiguchi, Takao; Yamashita, Masataka; Ishikawa, Shozo

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61260251	A2	19861118	JP 1985-101514	198505 15
JP 03070221	B4	19911106		
US 4735882	A	19880405	US 1986-846900	198604 01
PRIORITY APPLN. INFO.:			JP 1985-69723	A
				198504 02
			JP 1985-69724	A
				198504 02
			JP 1985-90453	A
				198504 26
			JP 1985-101514	A
				198505 15

AB The azo compds. have the formula $(A-N:Z_1CH:CHZ_2)N[(Z_3N:N)_nZ_4N:N-A](Z_5N:NZ_6N:N-A)$ (I) or $(A-N:Z_7CH:CHZ_8)N(Z_9CH:CHZ_{10}N:N-A)(Z_{11}N:NZ_{12}N:N-A)$ (Z_1-Z_{12} = arylene, heterocyclene; A = coupler residue having phenolic OH group; n = 0, 1). A photoconductor was prep'd. by dispersing in poly(vinyl butyral) binder an azo compd. of the formula I ($Z_1 = Z_2 = Z_4 = Z_5 = Z_6 = 1,4$ -phenylene; n = 0; A = coupler residue from naphthol AS) to give a charge-generating layer and dispersing in PMMA binder a hydrazone compd. to form a charge-transporting layer.

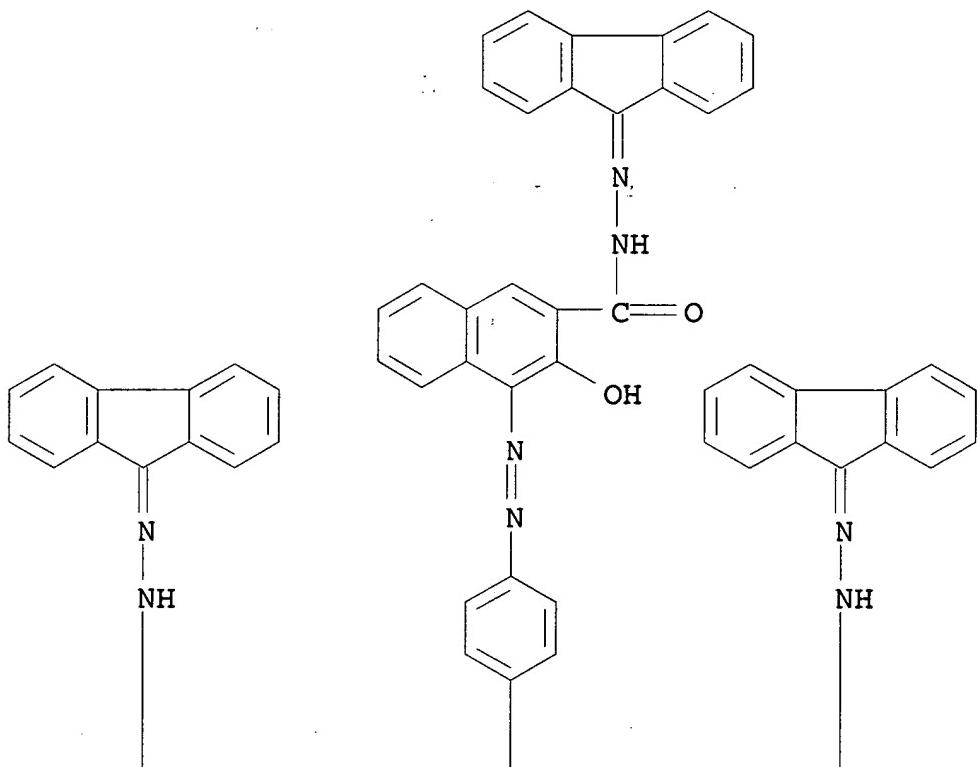
IT 108526-00-7

RL: USES (Uses)

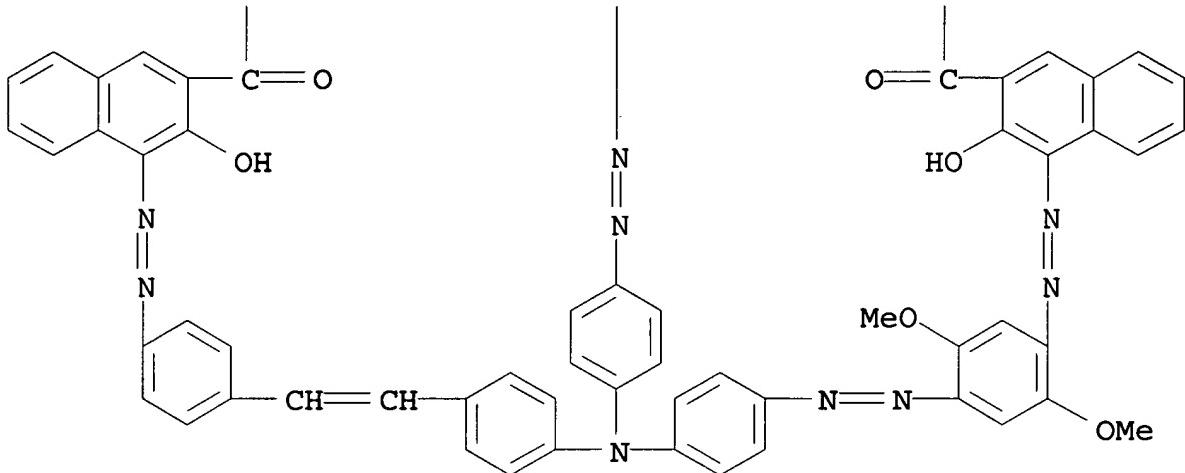
(electrophotog. photoconductor with charge-generating azo compd.)

from, with improved sensitivity and stability for repeated uses)
 RN 108526-00-7 HCAPLUS
 CN 2-Naphthalenecarboxylic acid, 3-hydroxy-4-[[4-[2-[[4-[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]2-hydroxy-1-naphthalenyl]azo]-2,5-dimethoxyphenyl]azo]phenyl][4-[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]2-hydroxy-1-naphthalenyl]azo]phenyl]azo]p-phenyl]amino]phenyl]ethenyl]phenyl]azo]-, 9H-fluoren-9-ylidenehydrazide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT	108525-90-2	108525-91-3	108525-92-4	108525-93-5	108525-94-6
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RL: USES (Uses)

(electrophotog. photoconductor with charge-generating azo compd.
from, with improved sensitivity and stability for repeated uses)

L14 ANSWER 18 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:186429 HCAPLUS

DOCUMENT NUMBER: 106:186429

TITLE: Electrophotographic photoreceptors containing
charge-generating disazo compoundsINVENTOR(S): Matsumoto, Masakazu; Takiguchi, Takao; Umehara,
Masashige; Yamashita, Masataka; Ishikawa, Shozo

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61275850	A2	19861205	JP 1985-119116	198505 31
JP 04017426	B4	19920325		
US 4702982	A	19871027	US 1986-865849	198605 22
PRIORITY APPLN. INFO.:				JP 1985-119116 A 198505 31
				JP 1985-118978 A 198506 03
				JP 1985-122757 A 198506 07

AB The disazo compd. has the formula (AN:NZ1)N(NH)(Z2N:NA) (I; A = coupler residue having a phenolic OH group; Z1, Z2 = phenylene, polynuclear arylene, heterocyclene). The photoreceptor was prep'd. by dispersing in a poly(vinyl butyral) binder a disazo compd. of the formula I (Z1 = 1,4-naphthylene; Z2 = 1,4-phenylene; A = coupler residue from 3-hydroxy-2-naphthoic acid anilide) to give a charge-generating layer and dispersing in a PMMA binder a hydrazone compd. to form a **charge-transport** layer. The photoreceptor shows improved sensitivity and stability.

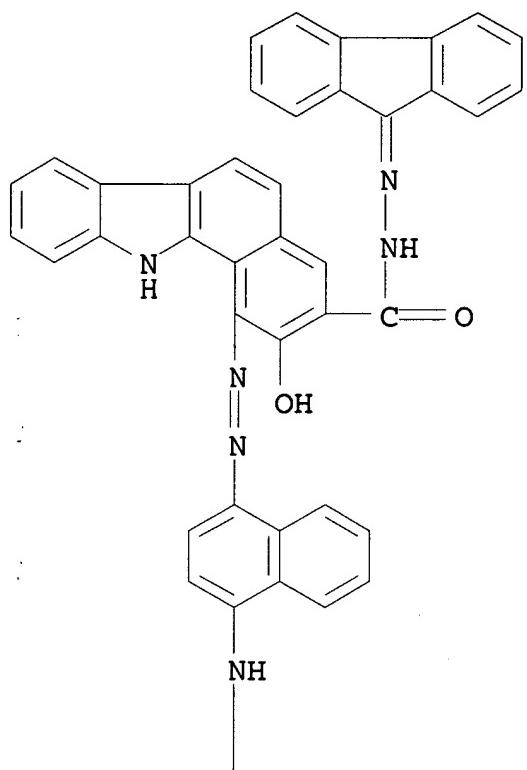
IT 108079-63-6

RL: USES (Uses)
(electrophotog. photoreceptor contg. charge-generating compd.
from, with improved sensitivity and stability)

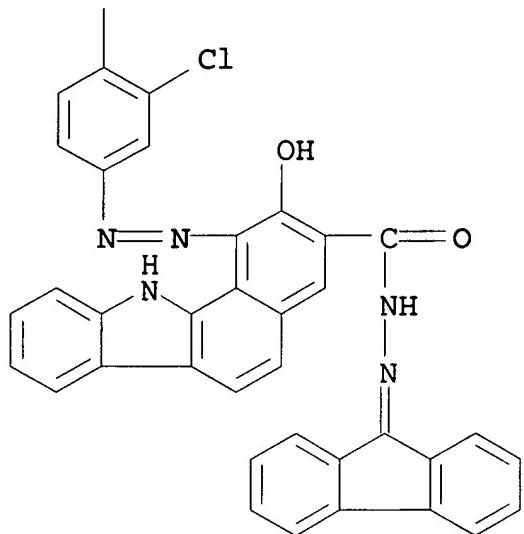
RN 108079-63-6 HCAPLUS

CN 11H-Benzo[a]carbazole-3-carboxylic acid, 1-[[3-chloro-4-[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]-2-hydroxy-11H-benzo[a]carbazol-1-yl]azo]-1-naphthalenyl]amino]phenyl]azo]-2-hydroxy-,
9H-fluoren-9-ylidenehydrazide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT	108079-61-4	108079-62-5	108079-63-6	108079-64-7	
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	108095-91-6	108095-92-7	108095-93-8	108118-21-4	108118-22-5
	108118-23-6				

RL: USES (Uses)

(electrophotog. photoreceptor contg. charge-generating compd. from, with improved sensitivity and stability)

L14 ANSWER 19 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:186428 HCPLUS

DOCUMENT NUMBER: 106:186428

TITLE: Electrophotographic photoreceptors containing
charge-generating disazo compoundsINVENTOR(S): Matsumoto, Masakazu; Yamashita, Masataka;
Miyazaki, Hajime

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61275849	A2	19861205	JP 1985-119115	198505 31
JP 04017425	B4	19920325	JP 1985-119115	198505 31
PRIORITY APPLN. INFO.:				

AB The charge-generating agent has the formula (AN:NZ1)N(NO)(Z2N:NA) (I; A = coupler residue having a phenolic OH group; Z1, Z2 = phenylene, polynuclear arylene, heterocyclene). A photoreceptor was prep'd. by dispersing in a poly(vinyl butyral) binder the disazo compd. I (Z1 = 1,4-naphthylene; Z2 = 1,4-phenylene; A = coupler residue from 3-hydroxy-2-naphthoic acid anilide) to give a charge-generating layer and then dispersing in a PMMA binder a hydrazone compd. to form a **charge-transport** layer. The photoreceptor shows improved sensitivity and stability.

IT 108095-57-4

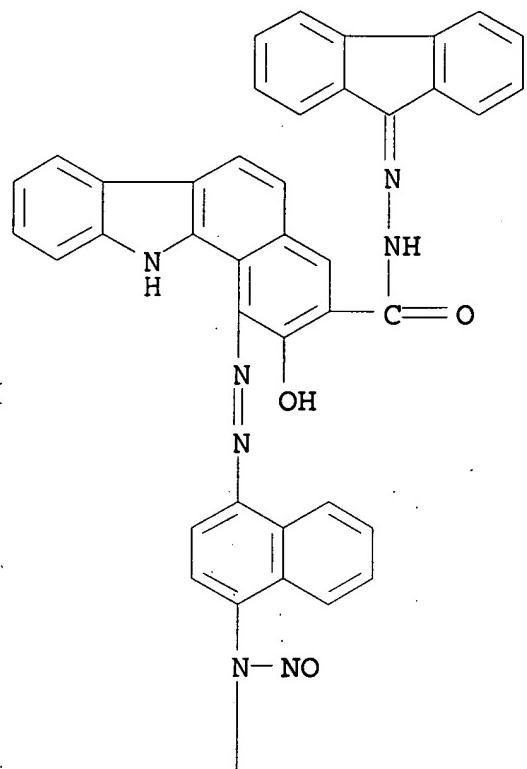
RL: USES (Uses)

(electrophotog. photoreceptor with charge-generating layer contg., for improved sensitivity and stability)

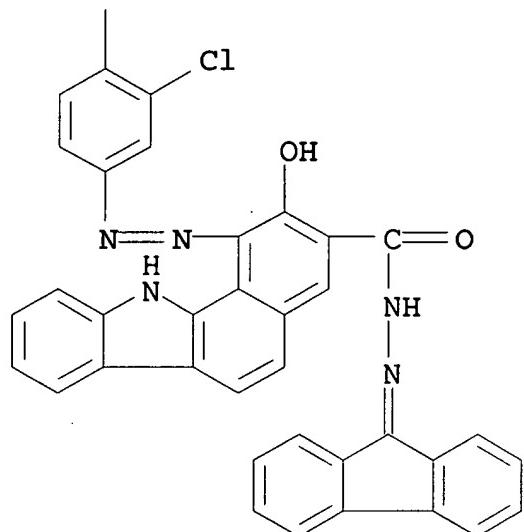
RN 108095-57-4 HCAPLUS

CN 11H-Benzo[a]carbazole-3-carboxylic acid, 1-[[3-chloro-4-[[4-[[3-[(9H-fluoren-9-ylidenehydrazino)carbonyl]-2-hydroxy-11H-benzo[a]carbazol-1-yl]azo]-1-naphthalenyl]nitrosoamino]phenyl]azo]-2-hydroxy-, 9H-fluoren-9-ylidenehydrazide (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT	108095-37-0	108095-38-1	108095-39-2	108095-40-5	108095-41-6
	108095-42-7	108095-43-8	108095-44-9	108095-45-0	108095-46-1
	108095-47-2	108095-48-3	108095-49-4	108095-50-7	108095-51-8
	108095-52-9	108095-53-0	108095-54-1	108095-55-2	108095-56-3
	108095-57-4	108095-58-5	108095-59-6	108095-60-9	
	108095-61-0	108095-62-1	108095-63-2	108095-64-3	108095-65-4
	108095-66-5	108095-67-6	108095-68-7	108095-69-8	108095-70-1
	108095-71-2	108095-72-3	108118-18-9	108118-19-0	108118-20-3

RL: USES (Uses)

(electrophotog. photoreceptor with charge-generating layer
contg., for improved sensitivity and stability)

L14 ANSWER 20 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:479433 HCPLUS

DOCUMENT NUMBER: 103:79433

TITLE: Electrophotographic photosensitive materials

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60023450	A2	19850206	JP 1983-132347	198307 20
JP 04052460	B4	19920821	JP 1983-132347	198307 20
PRIORITY APPLN. INFO.:				

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A photosensitive layer contg. I [R, R1 = lower alkyl, (substituted) aralkyl, (substituted) arom. moiety, (substituted) heterocyclic moiety; R and R1 may form a ring] is placed on a conductive support to obtain an electrophotog. photosensitive material. The material is easily prep'd. and stable for repeated use. Thus, II 76, THF soln. of Vylon 200 (polyester resin) (2% solids) 1260, and THF 3700 parts were mixed to prep. a dispersion, which was coated on an Al film (vacuum evapd. on a polyester support) to form a 1- μ -thick charge-generating layer. Sep., III 2, Panlite K1300 2, and THF 16 parts were mixed, coated on the charge-generating layer, and dried to form a 20- μ -thick **charge-transferring** layer to obtain a composite type photosensitive material. Using the material, 10,000 copies were obtained with clear images, showing excellent durability.

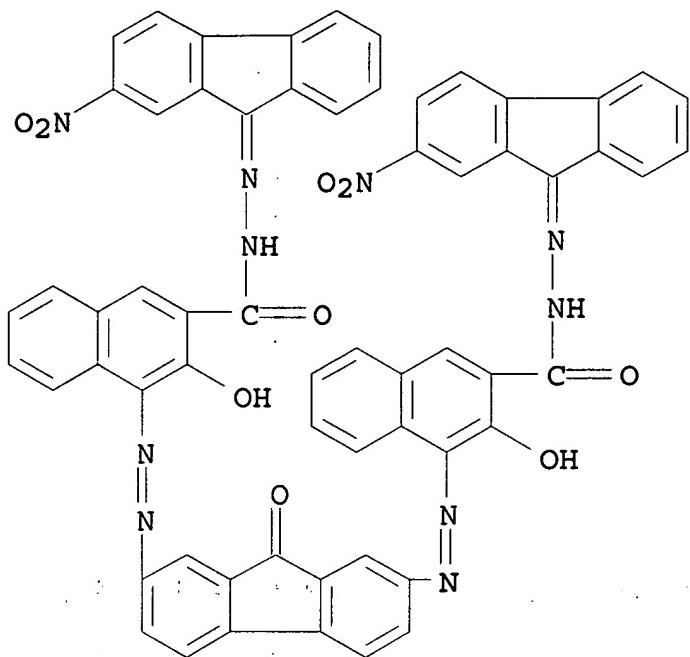
IT 97605-93-1

RL: USES (Uses)

(electrophotog. photoreceptor charge generating agent)

RN 97605-93-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(9-oxo-9H-fluorene-2,7-diyl)bis(azo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)



IC ICM C09B035-34

ICS G03G005-06

ICA H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 97605-86-2 97605-87-3 97605-88-4 97605-89-5 97605-90-8

97605-91-9 97605-92-0 97605-93-1 97605-94-2

97626-49-8

RL: USES (Uses)

(electrophotog. photoreceptor charge generating agent)

IT 57609-72-0 75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor **charge transfer**
layer contg., bisazo charge generating agent for)

IT 24936-68-3, uses and miscellaneous 71530-63-7

RL: USES (Uses)

(electrophotog. photoreceptor **charge transfer**
layer contg., **charge** generating agent for)

L14 ANSWER 21 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:462485 HCPLUS

DOCUMENT NUMBER: 103:62485

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S) : Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
JP 60002958	A2	19850109	JP 1983-110463	198306 20

PRIORITY APPLN. INFO.: JP 1983-110463

198306
20

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An electrophotog. photoreceptor has a photosensitive layer contg. a bisazo dye having the general formula I (R,R1 = lower alkyl, (substituted) aralkyl, aryl, heterocyclic group; R,R1 may be identical or jointly form a ring). The photoreceptor is easily prep'd. and performs well during repeated operations. Thus, an Al-laminated polyester film was coated with a dispersion contg. II 76, a polyester resin (Vylon 200) 25.2 parts, and THF to form a charge-generating layer. Then III 2 and a polycarbonate resin (Panlite K1300) 2 parts were dissolved in THF and coated on the charge-generating layer to form a charge-transport layer. The electrophotog. photoreceptor was charged to -1100 V; the sensitivity (for half decay of voltage) was detd. to be 4.8 lx-s. Copying test gave >10,000 copies without blemishes.

IT 97451-23-5

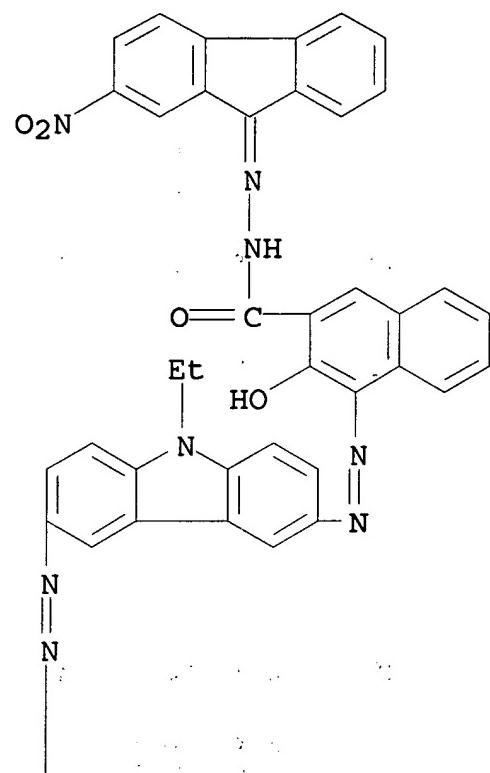
RL: USES (Uses)

(charge-generating layer contg., for electrophotog. plates)

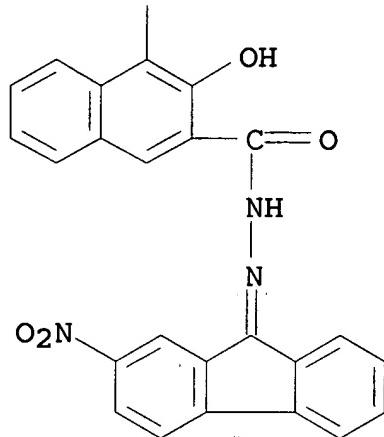
RN 97451-23-5 HCAPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(9-ethyl-9H-carbazole-3,6-diyl)bis(azo)bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICS C09B035-34; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 97451-14-4 97451-15-5 97451-16-6 97451-17-7 97451-18-8

97451-19-9 97451-20-2 97451-21-3 97451-22-4 97451-23-5

RL: USES (Uses)

(charge-generating layer contg., for electrophotog. plates)

IT 24936-68-3, uses and miscellaneous

RL: USES (Uses)

(charge-transfer layer contg.

diethylaminophenylvinylanthracene and, for electrophotog. plates)

IT 71530-63-7 75232-44-9 77383-46-1

RL: USES (Uses)

(charge-transfer layer contg., for

electrophotog. plates)

L14 ANSWER 22 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:414540 HCPLUS

DOCUMENT NUMBER: 103:14540

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60003634	A2	19850110	JP 1983-111514	198306 21
PRIORITY APPLN. INFO.:				JP 1983-111514
				198306 21

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An electrophotog. photoreceptor has a photosensitive layer contg. a bisazo compd. I (R, R1 = lower alkyl, aralkyl, aryl, heterocyclic group; R, R1 may be identical or jointly form a ring). The material is easily prep'd. and performs well during repeated operations. Thus, an Al-laminated polyester support was coated with a dispersion contg. II 76, a polyester resin (Vylon 200) 25.2 parts, and THF to form a charge-generating layer. Then III 2 and a polycarbonate resin (Panlite K 1300) 2 parts were dissolved in THF and coated on the material to form a **charge-transport** layer. The resultant photoreceptor was charged to -1150 V and the photosensitivity (for half decay of voltage) was detd. to be 2-7 lx-s. Copying test gave >10,000 copies without blemishes.

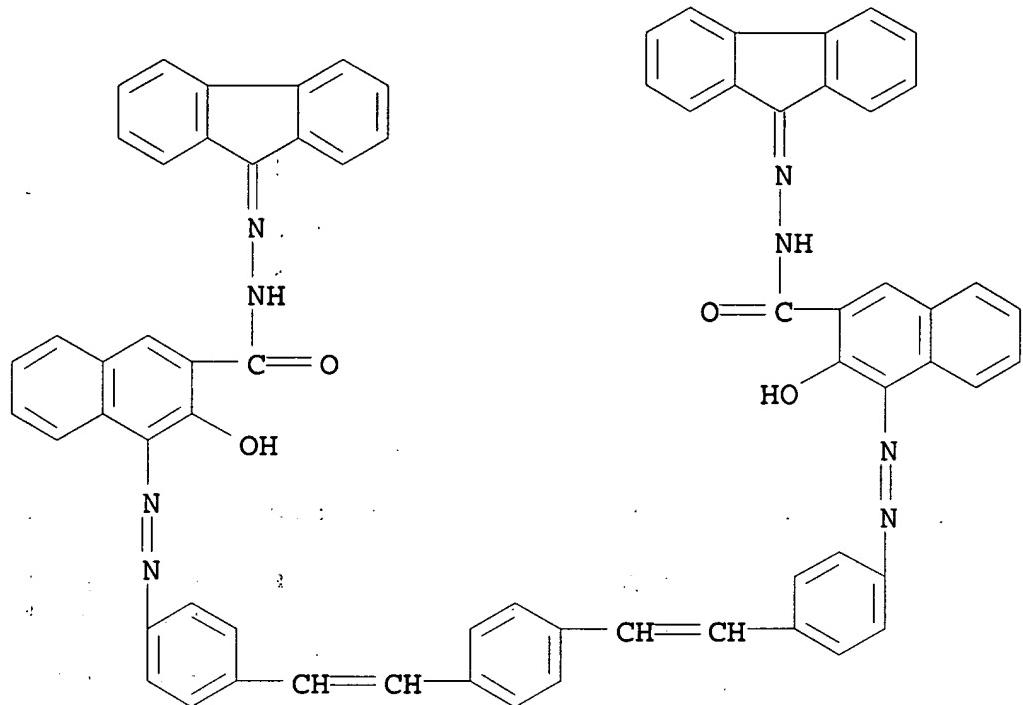
IT 96849-59-1

RL: USES (Uses)

(charge-generating layer contg., for electrophotog. plates)

RN 96849-59-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(1,4-phenylenebis(2,1-ethenediyl-4,1-phenyleneazo))bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 96849-48-8 96849-59-1 96849-60-4 96849-61-5
96849-62-6 96849-63-7 96849-64-8 96849-65-9 96849-66-0
96849-67-1

RL: USES (Uses)

(charge-generating layer contg., for electrophotog. plates)

IT 24936-68-3, uses and miscellaneous

RL: USES (Uses)

(charge-transport layer contg.

diethylaminophenylvinyl anthracene and, for electrophotog. plate with bisazo dye charge-generating layer)

IT 57609-72-0 71530-63-7 75232-44-9

RL: USES (Uses)

(charge-transport layer contg., for

electrophotog. plates with bisazo dye charge-generating layer)

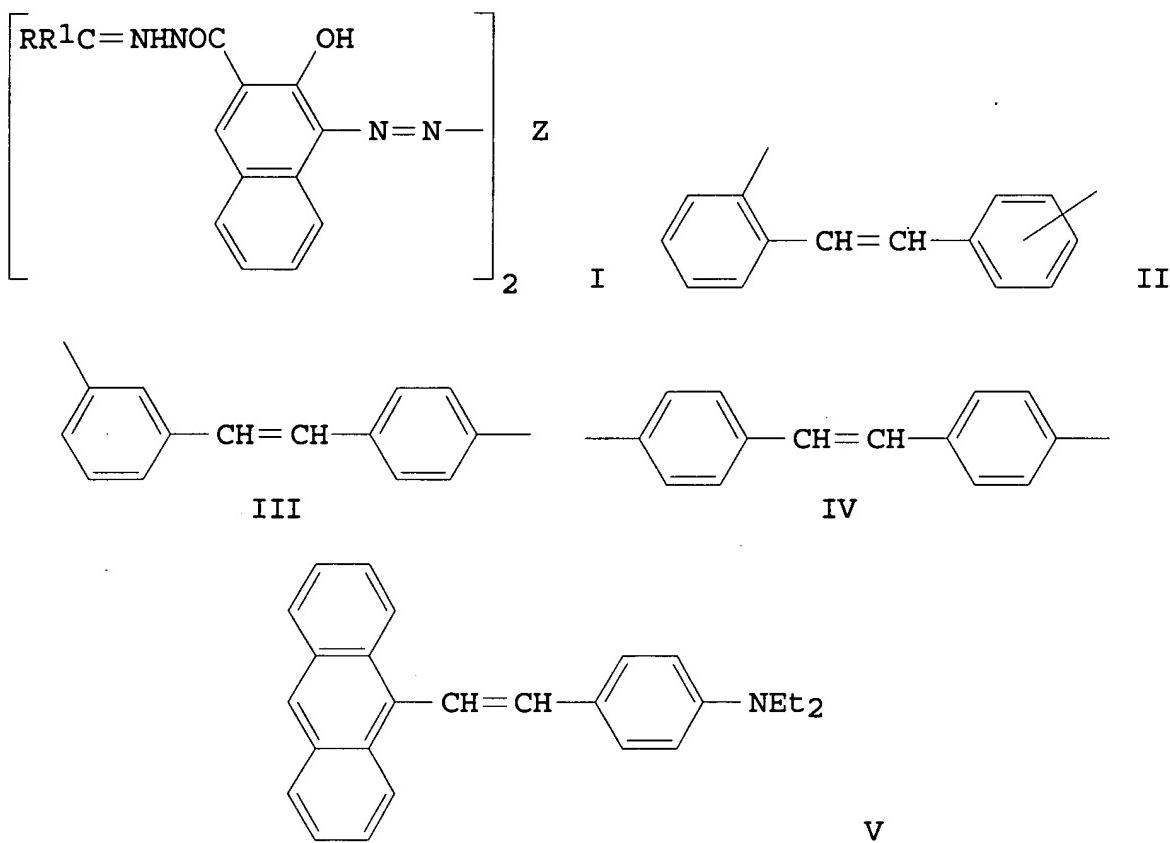
L14 ANSWER 23 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:229424 HCPLUS

DOCUMENT NUMBER: 102:229424
TITLE: Electrophotographic photoreceptor
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60000454	A2	19850105	JP 1983-108980	198306 17
JP 04022261	B4	19920416	JP 1983-108980	198306 17
PRIORITY APPLN. INFO.:				

GI



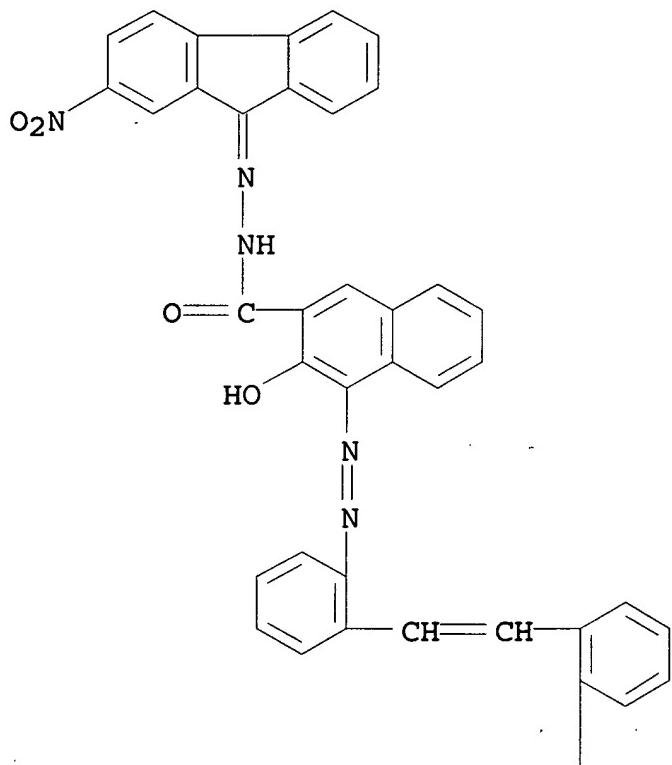
AB A photoreceptor has a supported photosensitive layer contg. a bisazo compd. having the general formula I ($Z = \text{II, III, IV}$; $R, R^1 = \text{H, lower alkyl, (substituted) aralkyl, arom. group, heterocyclic group; } R, R^1 \text{ may be identical and may jointly form a ring}$). The use of the claimed bisazo compd. provides a photoreceptor having long life and ease of prepn. Thus, an Al-coated polyester film was coated with a dispersion contg. a bisazo dye (I; $R = R^1 = \text{H}; Z = \text{o-C}_6\text{H}_4\text{CH:CHC}_6\text{H}_4\text{-o}$) 76 and a polyester resin (Vylon 200; Toyoho Co.) 25.2 parts in THF to form a charge-generating layer. A **charge-transfer** layer was formed by coating a compn. contg. compd. V 2 and a polycarbonate resin (Panlite K 1300; Teijin Chems.) 2 parts. The obtained photoreceptor upon charging to -850 V showed a sensitivity (lx-s for half decay of voltage by irradn.) of 15.0.

IT **96442-14-7**

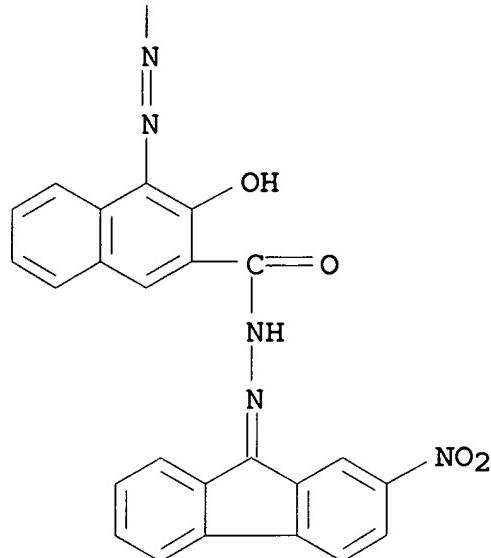
RL: TEM (Technical or engineered material use); USES (Uses)

(electrophotog. photoreceptor charge-generating agent)
RN 96442-14-7 HCPLUS
CN 2-Naphthalenecarboxylic acid, 4,4'-[1,2-ethenediylbis(2,1-phenyleneazo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT	96357-84-5	96357-85-6	96357-86-7	96357-87-8	96357-88-9
	96357-89-0	96357-90-3	96357-91-4	96442-14-7	
	96442-15-8	96442-16-9	96442-17-0	96442-18-1	96442-19-2
	96442-20-5	96442-21-6	96442-22-7	96442-23-8	
	96442-24-9	96442-25-0	96442-26-1	96442-27-2	96442-28-3
	96442-29-4	96442-30-7	96442-31-8	96442-32-9	
	96442-33-0	96442-34-1	96442-35-2	96442-36-3	96442-37-4
	96442-38-5	96442-39-6	96442-40-9	96442-41-0	96442-42-1
	96442-43-2	97179-28-7			

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. photoreceptor charge-generating agent)

IT	24936-68-3, uses and miscellaneous	57609-72-0	71530-63-7
	75232-44-9		

RL: USES (Uses)
(electrophotog. photoreceptor **charge-transfer**
layer contg.)

L14 ANSWER 24 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

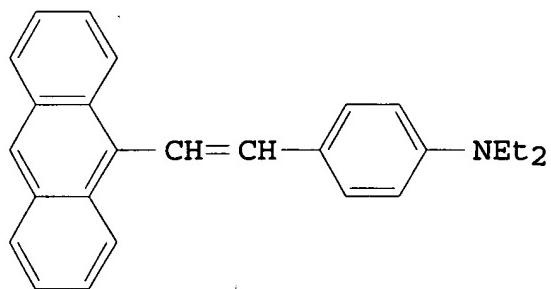
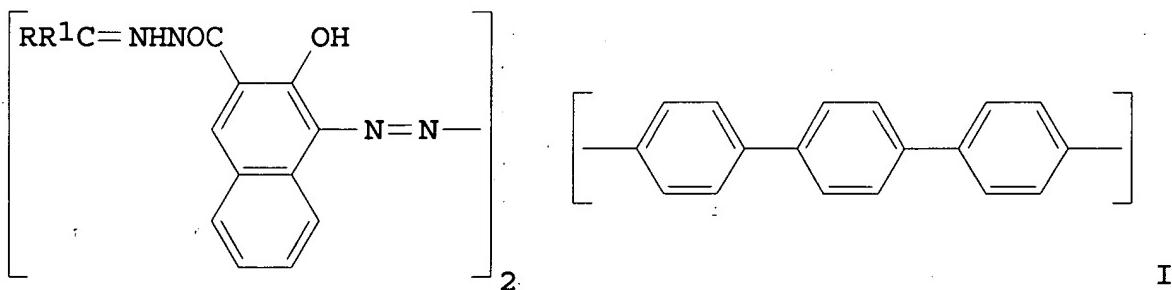
ACCESSION NUMBER: 1985:212628 HCPLUS

DOCUMENT NUMBER: 102:212628

TITLE: Electrophotographic photoreceptor
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 60000453	A2	19850105	JP 1983-108979	198306 17
PRIORITY APPLN. INFO.:			JP 1983-108979	198306 17

GI



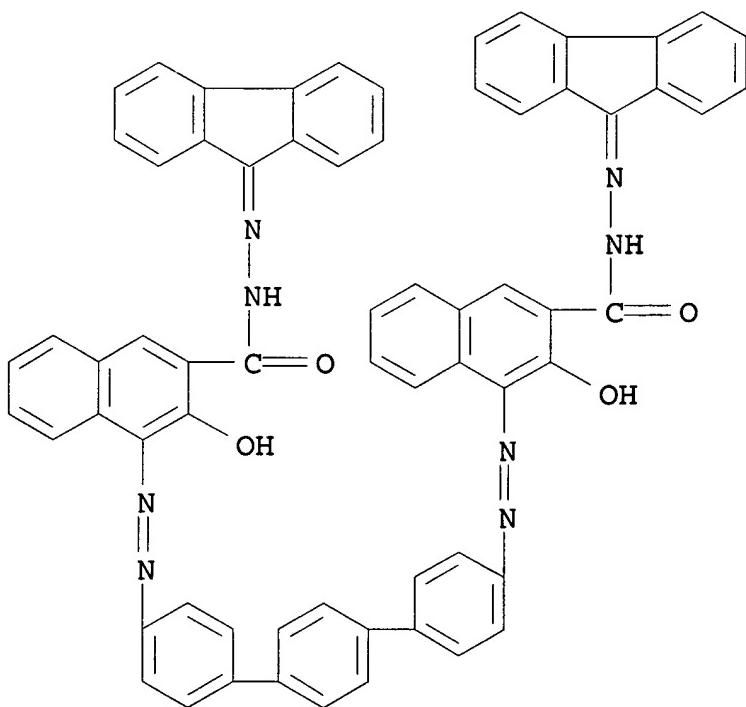
AB A photoreceptor has a supported photosensitive layer contg. a bisazo compd. having the general formula I (R, R1 = H, lower alkyl, (substituted) aralkyl, arom. group, heterocyclic group; R, R1 may be identical and may jointly form a ring). The use of the claimed bisazo compd. provides a photoreceptor having long life and ease of prepn. Thus, an Al-laminated polyester film was coated with a dispersion contg. a bisazo dye (I; R = 2-methoxyphenyl; R1 = H) 76 and a polyester resin (Vylon 200; Toyobo Co.) 25.2 parts in THF to form a charge-generating layer. A **charge-transfer** layer was formed by coating a soln. of compd. II 2 and a polycarbonate resin (Panlite K 1300; Teijin Chems.) 2 parts. The obtained photoreceptor upon charging to -825 V showed a sensitivity (lx-s for half decay of voltage by irradn.) of 6.7.

IT 96442-50-1

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. photoreceptor charge-generating agent)

RN 96442-50-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'--[[1,1':4',1''-terphenyl]-4,4''-diylbis(azo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06
 ICS C09B035-039; H01L031-08
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 96442-44-3 96442-45-4 96442-46-5 96442-47-6 96442-48-7
 96442-49-8 **96442-50-1** 96442-51-2 96452-91-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrophotog. photoreceptor charge-generating agent)
 IT 24936-68-3, uses and miscellaneous 57609-72-0 71530-63-7
 75232-44-9
 RL: USES (Uses)
 (electrophotog. photoreceptor **charge-transfer**
 layer contg.)

L14 ANSWER 25 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:212627 HCPLUS

DOCUMENT NUMBER: 102:212627

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60000452	A2	19850105	JP 1983-108978	198306 17
JP 04052458	B4	19920821	JP 1983-108978	198306 17
PRIORITY APPLN. INFO.:				

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A photoreceptor has a supported photosensitive layer contg. a bisazo

compd. having the general formula I (Z = II, III; R₂, = H, Cl, OMe, nitro; R, R₁ = H, lower alkyl, (substituted) aralkyl, arom. group, heterocyclic group; R, R₁ may be identical and may jointly form a ring). The use of the claimed bisazo compd. provides a photoreceptor having long life and ease of prepn. Thus, an Al-laminated polyester film was coated with a dispersion contg. bisazo dye IV 76 and a polyester resin (Vylon 200; Toyobo Co.) 25.2 parts in THF to form a charge-generating layer. A **charge-transfer** layer was formed by coating a soln. of compd. V 2 and a polycarbonate resin (Panlite K 1300; Teijin Chems.) 2 parts. The obtained photoreceptor upon charging to -980 V showed a sensitivity (lx-s for half decay of voltage by irradn.) of 10.0.

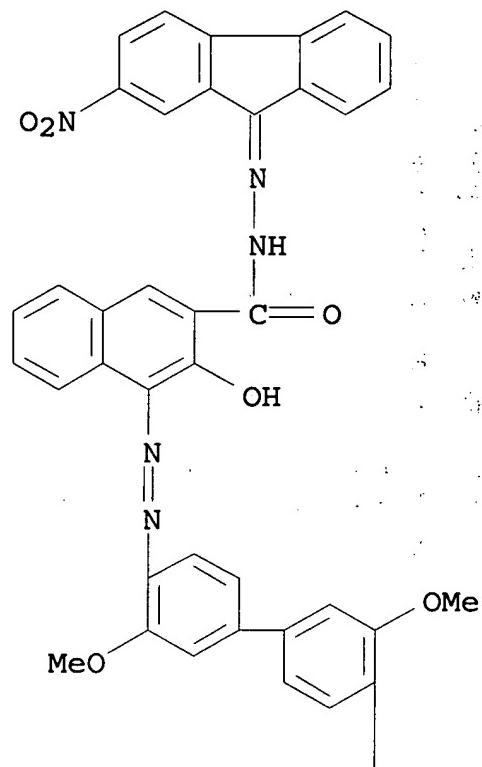
IT 96358-12-2

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. photoreceptor charge-generating agent)

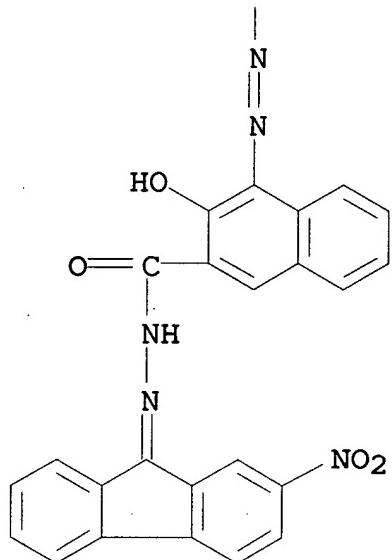
RN 96358-12-2 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(3,3'-dimethoxy[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT	92751-83-2	93608-75-4	93608-76-5	93608-79-8	93608-80-1
	93608-83-4	93608-93-6	95904-20-4	96357-92-5	96357-93-6
	96357-94-7	96357-95-8	96357-96-9	96357-97-0	96357-98-1
	96357-99-2	96358-00-8	96358-01-9	96358-02-0	96358-03-1
	96358-04-2	96358-05-3	96358-06-4	96358-07-5	96358-08-6
	96358-09-7	96358-10-0	96358-11-1	96358-12-2	
	96358-13-3	96358-14-4	96358-15-5	96358-16-6	96358-17-7
	96358-18-8	96358-19-9	96358-20-2	96358-21-3	
	96358-22-4	96358-23-5	96358-24-6	96358-25-7	96358-26-8
	96358-27-9	96381-09-8	96381-10-1		
	96381-11-2	96381-12-3	96442-52-3	96572-80-4	

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. photoreceptor charge-generating agent)

IT	24936-68-3, uses and miscellaneous	75232-44-9	57609-72-0	71530-63-7
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RL: USES (Uses)
(electrophotog. photoreceptor **charge-transfer**
layer contg.)

L14 ANSWER 26 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

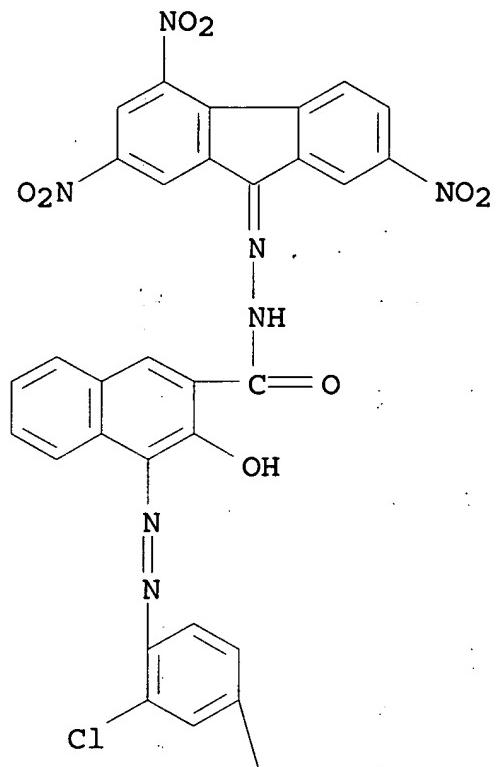
ACCESSION NUMBER: 1985:195131 HCAPLUS
 DOCUMENT NUMBER: 102:195131
 TITLE: Electrophotographic photoreceptors
 PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60002957	A2	19850109	JP 1983-110195	198306 21
			JP 1983-110195	198306 21

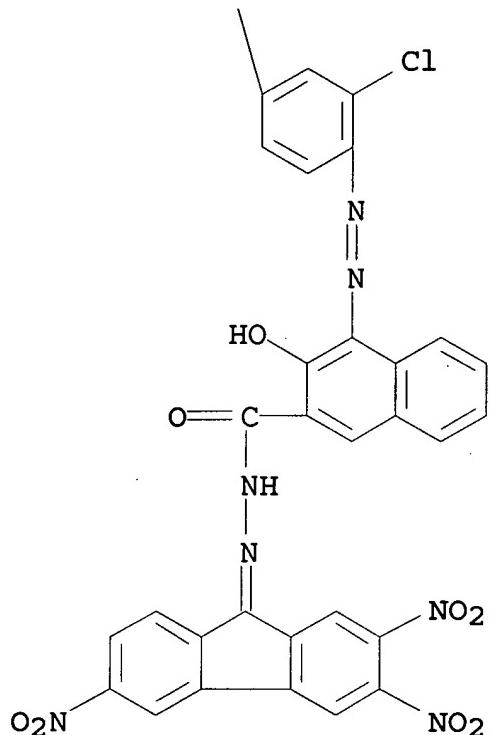
PRIORITY APPLN. INFO.:

GI For diagram(s), see printed CA Issue.
 AB An electrophotog. photoreceptor with improved sensitivity and durability has a photosensitive layer contg. a charge carrier-generating disazo compd. of the formula I and a charge carrier-transporting indoline compd. of the formula II [R1 = CONHN:CHR3, -CONHN:CR4R5, III (R3 = Ph, naphthyl, anthranyl, pyridyl, thieryl, furyl, carbazolyl; R4, R5 = alkyl, aryl; A = alicyclyl, heterocyclyl residue); R2 = H, halo, alkyl, alkoxy, NO₂; R = aryl, arom. heterocyclyl; R6, R7 = H, halo, alkyl, aralkyl, aryl]. An electron acceptor (e.g., 3,5-dinitrobenzoic acid) may also be incorporated in the above photosensitive layer to further improve the sensitivity and durability of the above photoreceptor.
 IT 95904-21-5
 RL: USES (Uses)
 (electrophotog. photoreceptors with photosensitive layer contg. charge carrier-generating substance of)
 RN 95904-21-5 HCAPLUS
 CN 2-Naphthalenecarboxylic acid, 4,4'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[3-hydroxy-, bis[(2,3,6-trinitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-04
ICS H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Photography, electro-, photoconductors
(composite, contg. disazo charge carrier-generating compd. and indoline charge carrier-transporting compd. and electron acceptors)

IT 93608-70-9 93608-71-0 93608-72-1 93608-73-2 93608-74-3
93608-75-4 93608-77-6 93608-78-7 93608-79-8 93608-80-1
93608-81-2 93608-82-3 93608-83-4 93608-86-7 93608-87-8
93608-88-9 93608-89-0 93608-90-3 93608-91-4 93608-92-5
93608-93-6 95904-20-4 95904-21-5 95904-22-6

95919-53-2 96324-91-3

RL: USES (Uses)
(electrophotog. photoreceptors with photosensitive layer contg.
charge carrier-generating substance of)

IT 87866-83-9 87866-87-3
RL: USES (Uses)

(electrophotog. photoreceptors with photosensitive layers contg.
charge carrier-transporting substance of)

L14 ANSWER 27 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1985:176507 HCAPLUS
 DOCUMENT NUMBER: 102:176507
 TITLE: Electrophotographic photosensitive materials
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59232350	A2	19841227	JP 1983-105954	198306 15
PRIORITY APPLN. INFO.:			JP 1983-105954	198306 15

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Electrophotog. photosensitive layers contain bisazo pigments I (R, R1 = H, lower alkyl, aralkyl, aryl, heterocycl; RR1 in combination may form a ring). Thus, an Al-laminated polyester film support was coated with a compn. contg. II and Vylon 200 (a polyester), and coated with a compn. contg. III and Panlite K-1300 (a polycarbonate resin) to give an electrophotog. composite plate which showed good sensitivity and electrostatic characteristics.

IT 96020-64-3

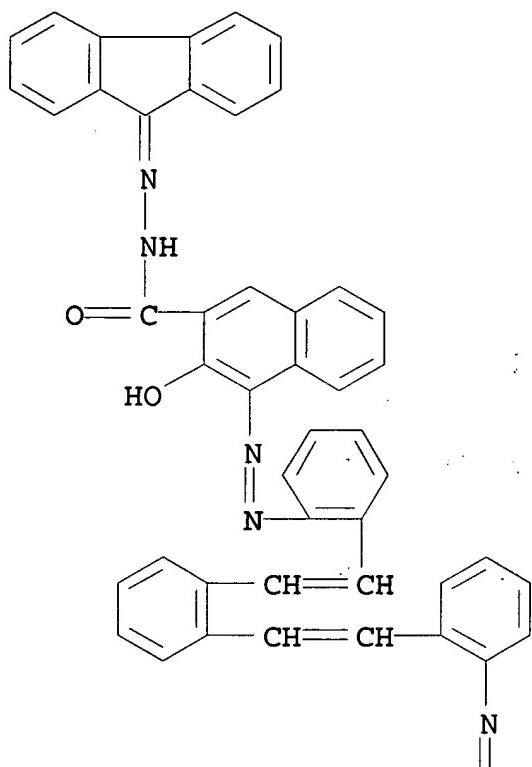
RL: USES (Uses)
(electrophotog. charge-generating pigment)

RN 96020-64-3 HCAPLUS

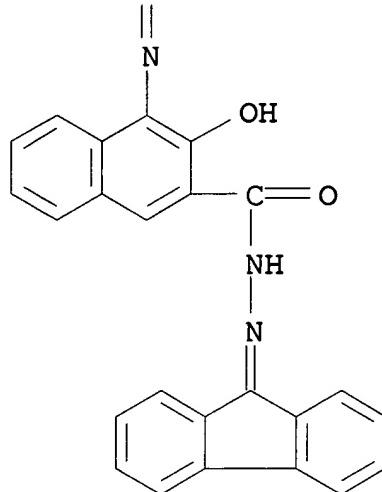
CN 2-Naphthalenecarboxylic acid, 4,4'-(1,2-phenylenebis(2,1-ethenediyl-2,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide)

(9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT	95993-15-0	95993-16-1	95993-17-2	95993-18-3	95993-19-4
	95993-20-7	95993-21-8	95993-22-9	95993-23-0	95993-24-1
	95993-25-2	95993-26-3	95993-27-4	95993-28-5	95993-29-6
	95993-30-9	95993-31-0	95993-32-1	95993-33-2	95993-34-3
	95993-35-4	95993-36-5	95993-37-6	95993-38-7	96020-63-2
	96020-64-3	96020-65-4	96020-66-5	96020-67-6	

96037-78-4

RL: USES (Uses)
(electrophotog. charge-generating pigment)

IT 57609-72-0 71530-63-7 75232-44-9

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. charge-transfer agent)

L14 ANSWER 28 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:176489 HCPLUS

DOCUMENT NUMBER: 102:176489

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

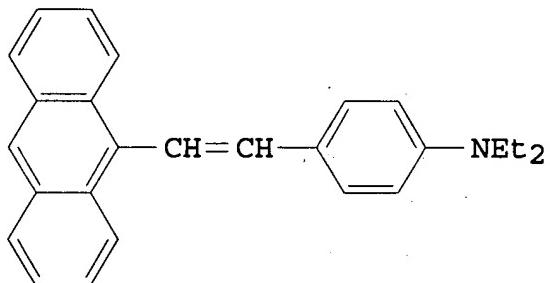
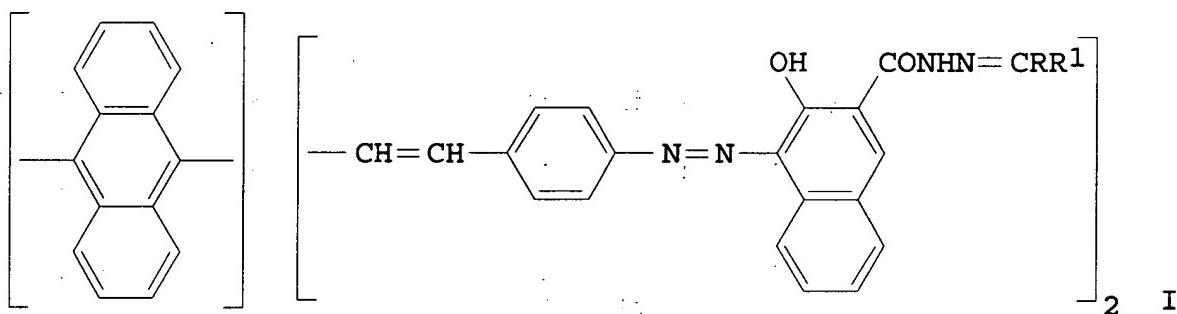
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59214037	A2	19841203	JP 1983-87676	198305 20
PRIORITY APPLN. INFO.:			JP 1983-87676	198305 20

GI



II

AB A photosensitive layer of the electrophotog. photoreceptor formed on conductive support contains a bisazo dye having the general formula I (R, R₁ = H, lower alkyl, aralkyl, arom. group, heterocyclic group; R and R₁ may be identical and may jointly form a ring). Claimed dyes are good charge generators and provide facile prepn. of durable

electrophotog. photoreceptor. Thus, a bisazo compd. (I: R = Ph; R1 = H) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts and THF were dispersed and coated on an Al-laminated polyester film to form a charge generating layer. The **charge transfer** layer was formed by coating a THF soln. contg. **charge transfer** substance II 2 and polycarbonate resin (Panlite K1300; Teijin Chem. Ltd.) 2 parts in THF. The photoreceptor upon charging to -870 V showed a sensitivity (half decay of voltage) of 4.9 lx-s.. Copying tests gave >10,000 blemish-free copies.

IT 96011-89-1

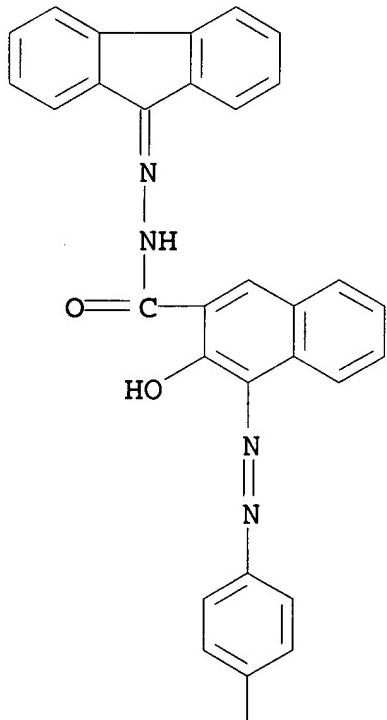
RL: USES (Uses)

(electrophotog. charge generating agent)

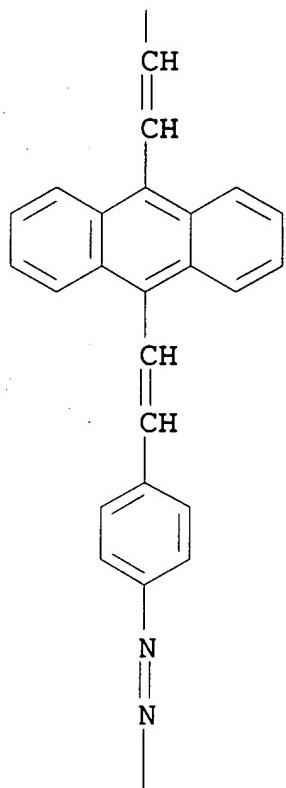
RN 96011-89-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-[9,10-anthracenediylbis(2,1-ethenediyl-4,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)

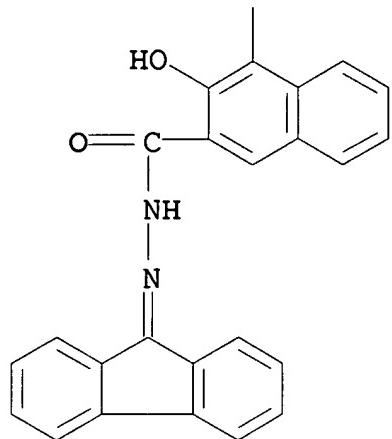
PAGE 1-A



PAGE 2-A



PAGE 3-A

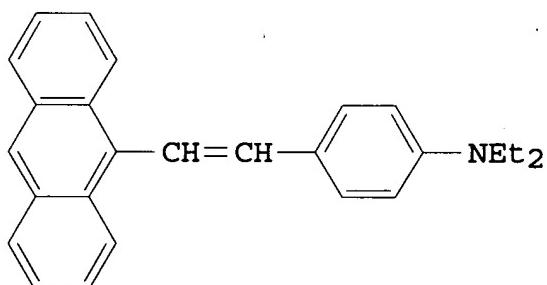
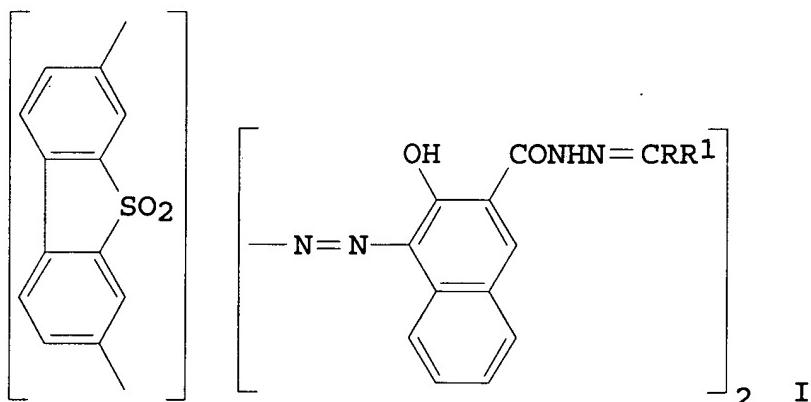


IC ICM G03G005-06
 ICS C09B035-023; H01L031-08
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 IT 96011-87-9 96011-88-0 96011-89-1 96011-90-4
 96011-91-5 96012-15-6 96012-16-7 96012-17-8 96012-18-9
 96022-20-7
 RL: USES (Uses)
 (electrophotog. charge generating agent)
 IT 24936-68-3, uses and miscellaneous 57609-72-0 71530-63-7
 75232-44-9
 RL: USES (Uses)
 (electrophotog. photoreceptor with **charge**
 transfer layer contg., bisazo dye charge generating layer
 for)

L14 ANSWER 29 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1985:176488 HCPLUS
 DOCUMENT NUMBER: 102:176488
 TITLE: Electrophotographic photoreceptor
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59214038	A2	19841203	JP 1983-87677	198305 20
JP 04022266	B4	19920416	JP 1983-87677	198305 20
PRIORITY APPLN. INFO.:				

GI



AB A photosensitive layer of the electrophotog. photoreceptor formed on conductive support contains a bisazo dye having the general formula I (R, R₁ = H, lower alkyl, aralkyl, arom. group, heterocyclic group; R and R₁ may be identical and may jointly form a ring). Claimed

dyes are good charge generators and provide facile prepn. of durable electrophotog. photoreceptors. Thus, a bisazo compd. (I; R = Ph; R1 = H) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts and THF were dispersed and coated on an Al-laminated polyester film to form a charge generating layer. The **charge transfer** layer was formed by coating a THF soln. contg. **charge transfer** substance II 2 and polycarbonate resin (Panlite K1300; Teijin Chem. Ltd.) 2 parts in THF. Photoreceptor upon charging to -1030 V showed a sensitivity (half decay of voltage) of 10.1 lx-s. Copying tests gave >10,000 blemish-free copies.

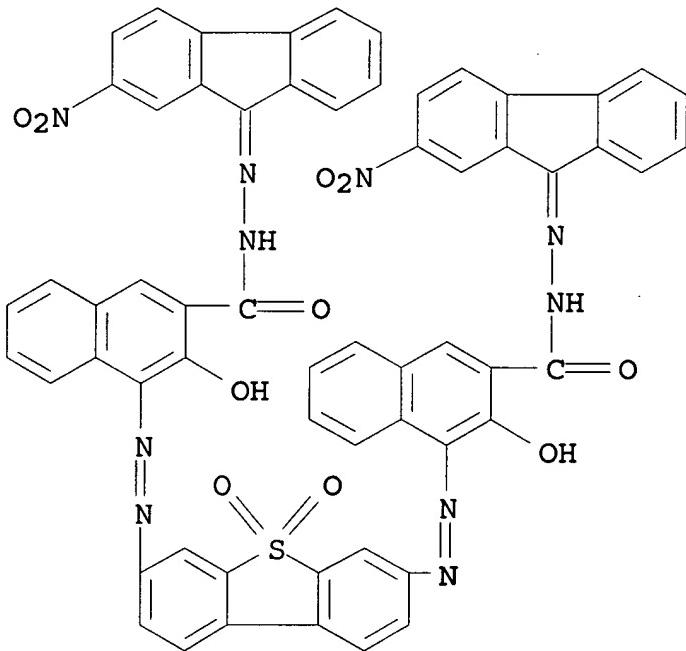
IT 96011-98-2

RL: USES (Uses)

(electrophotog. charge generating agent)

RN 96011-98-2 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-[{(5,5-dioxido-3,7-dibenzothiophenediyl)bis(azo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide]} (9CI) (CA INDEX NAME)

IC ICM G03G005-06
ICS H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 96011-92-6 96011-93-7 96011-94-8 96011-95-9 96011-96-0

96011-97-1 96011-98-2 96011-99-3 96022-05-8

96022-06-9

RL: USES (Uses)

(electrophotog. charge generating agent)

IT 24936-68-3, uses and miscellaneous 57609-72-0 71530-63-7
75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor **charge transfer**
layer contg., bisazo dye charge generating layer for)

L14 ANSWER 30 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:176487 HCPLUS

DOCUMENT NUMBER: 102:176487

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

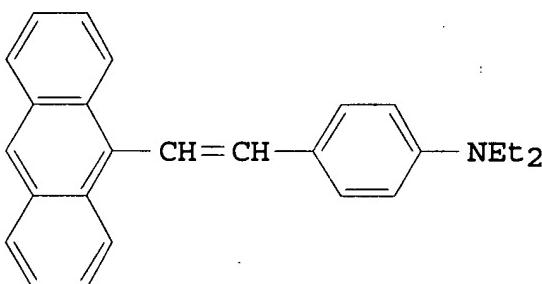
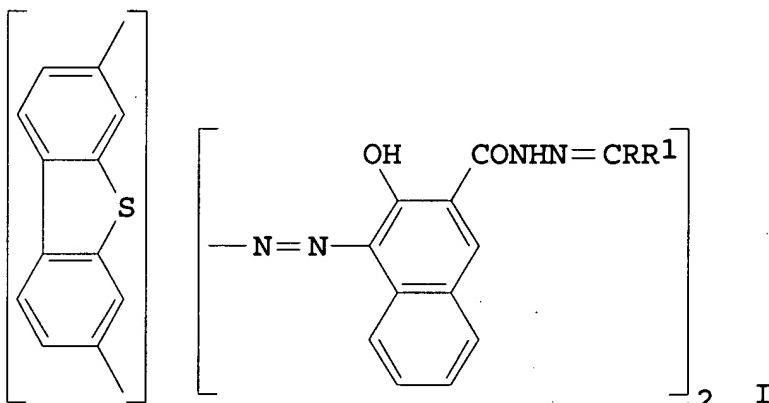
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 59214039	A2	19841203	JP 1983-87678	198305 20
JP 04022267	B4	19920416	JP 1983-87678	198305 20
PRIORITY APPLN. INFO.:				

GI



AB A photosensitive layer of the electrophotog. photoreceptor formed on conductive support contains a bisazo dye having the general formula I (R, R₁ = H, lower alkyl, aralkyl, arom. group, heterocyclic group; R and R₁ may be identical and may jointly form a ring). Claimed dyes are good charge generators and provide facile prepn. of durable electrophotog. photoreceptor. Thus, a bisazo compd. (I; R = Ph; R₁ = H) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts and THF were dispersed and coated on an Al-laminated polyester film to form a charge generating layer. The **charge transfer** layer was formed by coating a THF soln. contg. **charge transfer** substance II 2 and polycarbonate resin (Panlite K1300; Teijin Chem. Ltd.) 2 parts in THF. The photoreceptor upon charging to -950 V showed a sensitivity (half decay of voltage) of 9.9 lx-s. Copying tests gave >10,000 blemish-free copies.

IT 96022-08-1

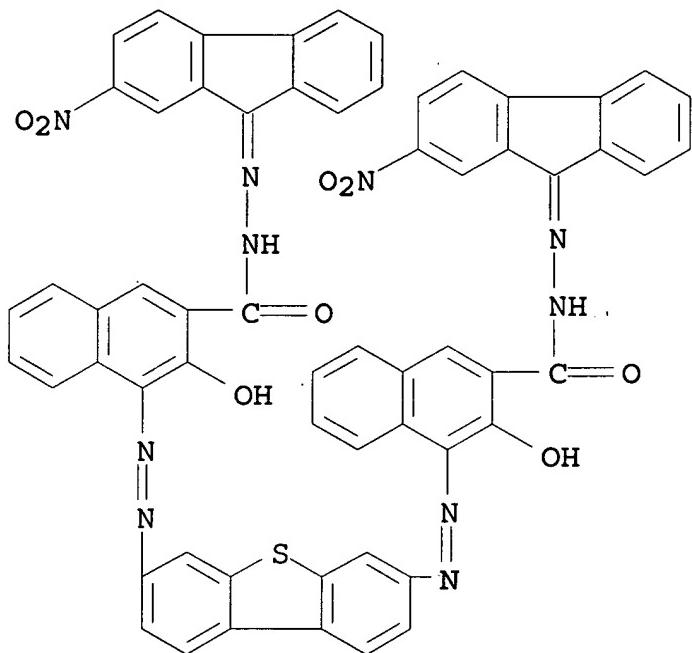
RL: USES (Uses)

(electrophotog. charge generating agent)

RN 96022-08-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-[3,7-

dibenzothiophenediylbis(azo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 96012-00-9 96012-01-0 96012-02-1 96012-03-2 96012-04-3
96012-05-4 96012-06-5 96012-07-6 96022-07-0 **96022-08-1**
RL: USES (Uses)

(electrophotog. charge generating agent)

IT 24936-68-3, uses and miscellaneous 57609-72-0 71530-63-7
75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor with **charge transfer** layer contg., bisazo dye charge generating layer for)

L14 ANSWER 31 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:176484 HCPLUS

DOCUMENT NUMBER: 102:176484

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59218455	A2	19841208	JP 1983-92483	198305 27
PRIORITY APPLN. INFO.: JP 1983-92483				198305 27

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An electrophotog. photoreceptor has a conductive support and a photoreceptor layer contg. a bisazo dye having the general formula I (R, R1 = H, lower alkyl, (substituted) aralkyl, (substituted) arom. or heterocyclic group; R and R1 may be identical and may jointly constitute part of a ring system). The photoreceptor is easy to prep. and has long usable life. Thus, an Al-coated polyester film support was coated with a dispersion contg. I (R = H, R1 = Ph) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts, and THF to form a 1 μm charge-generating layer. A 20 μm charge transfer layer was formed by coating a soln. of II 1 and polycarbonate resin (Panlite K1300; Teijin Chem.) 1 part in THF. The photoreceptor upon charging to -920 V showed a sensitivity (half voltage decay) of 3 lx-s. Copying tests gave >10,000 blemish-free copies.

IT 96041-59-7

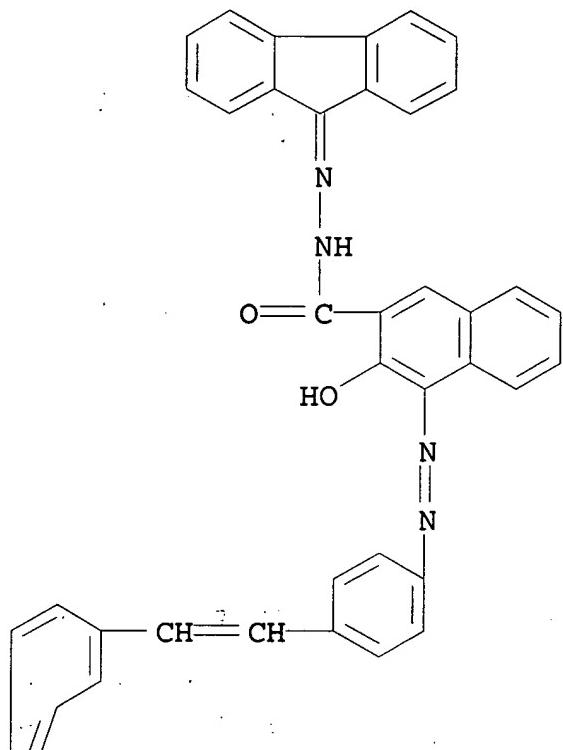
RL: USES (Uses)

(electrophotog. photoreceptor charge generating agent)

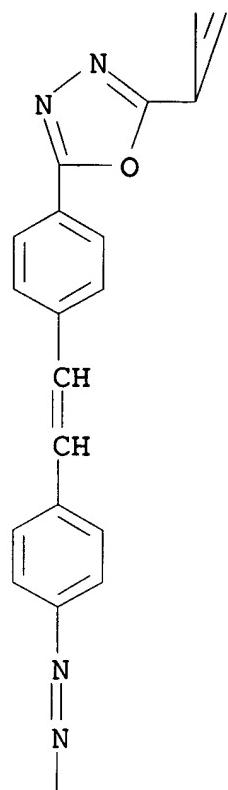
RN 96041-59-7 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(1,3,4-oxadiazole-2,5-diylbis(4,1-phenylene-2,1-ethenediyl-4,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)

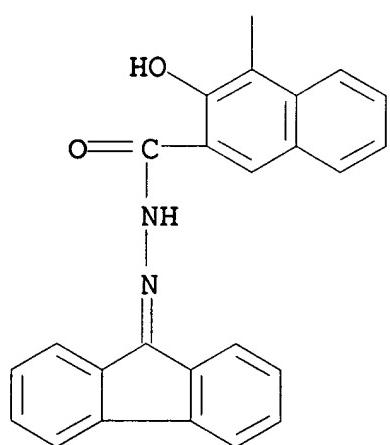
PAGE 1-A



PAGE 2-A



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IC ICM G03G005-06
 ICA C09B035-34; H01L031-08
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 IT 96012-08-7 96012-09-8 96012-10-1 96022-09-2 96022-10-5
 96022-11-6 96022-12-7 96022-13-8 96022-14-9 96041-59-7
 RL: USES (Uses)
 (electrophotog. photoreceptor charge generating agent)
 IT 24936-68-3, uses and miscellaneous 57609-72-0 71530-63-7
 75232-44-9
 RL: USES (Uses)
 (electrophotog. photoreceptor **charge transfer**
 layer contg., bisazo dye charge generating agent layer for)

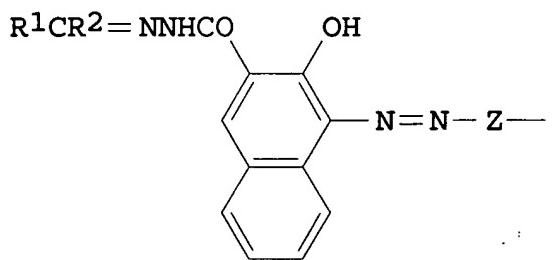
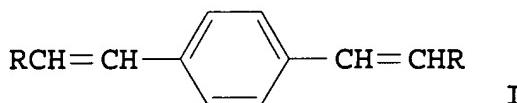
L14 ANSWER 32 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1985:158045 HCPLUS
 DOCUMENT NUMBER: 102:158045
 TITLE: Photosensitive drum for electrophotography
 PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 59232352	A2	19841227	JP 1983-105956	198306 15

PRIORITY APPLN. INFO.:	DATE
JP 1983-105956	198306 15

GI



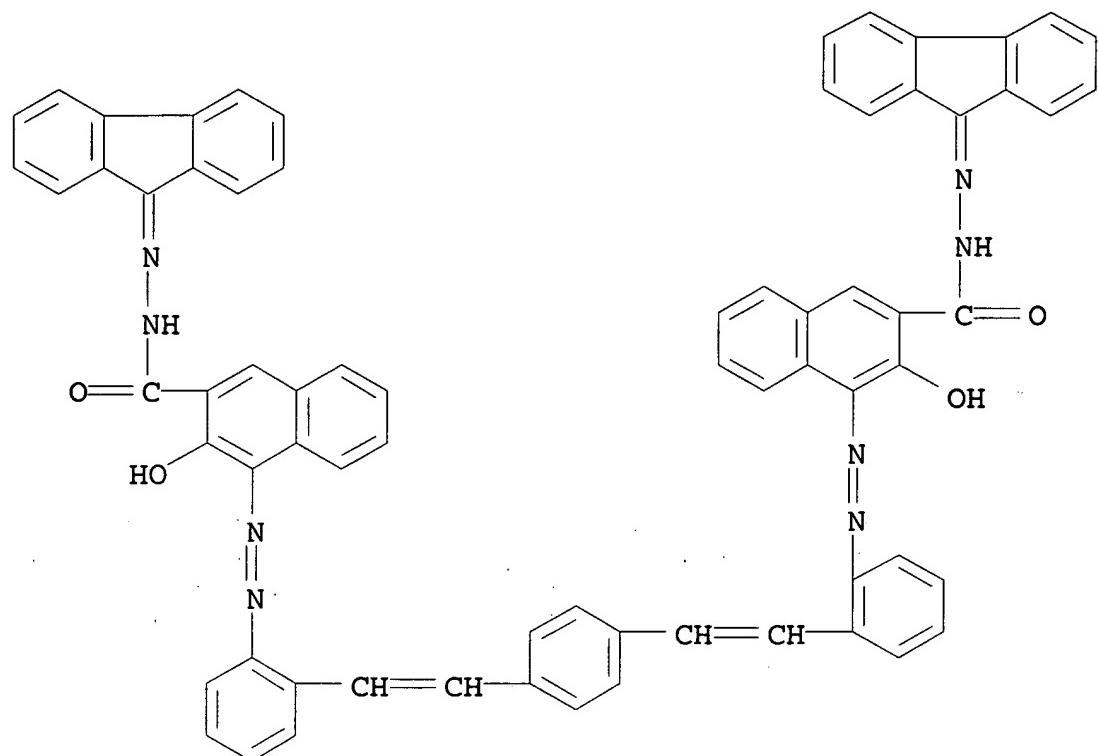
AB The photosensitive drum (on plate) for electrophotog. consists of an electroconductive support provided with a photosensitive layer contg. a bisazo compd., (I) [R = I (z = o- or m-phenylene; R1, R2= H, lower alkyl, aralkyl, aryl, heterocycl; R1, R2 may form a ring)]. The drum can be subjected to repetitive use.

IT 95738-41-3

RL: USES (Uses)
(electrophotog. charge-generating pigment)

RN 95738-41-3 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(1,4-phenylenebis(2,1-ethenediyl)-2,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95738-32-2 95738-33-3 95738-34-4 95738-35-5 95738-36-6
 95738-37-7 95738-38-8 95738-39-9 95738-40-2 **95738-41-3**
 95756-15-3 95756-16-4 95756-17-5 95756-18-6 95756-19-7
 95756-20-0 95756-21-1 **95756-22-2** **95756-23-3**
 95772-61-5

RL: USES (Uses)

(electrophotog. charge-generating pigment)

IT 57609-72-0 71530-63-7 75232-44-9

RL: TEM (Technical or engineered material use); USES (Uses)
 (electrophotog. **charge-transfer** agent)

L14 ANSWER 33 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:158044 HCPLUS

DOCUMENT NUMBER: 102:158044

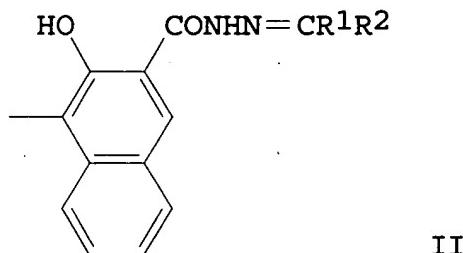
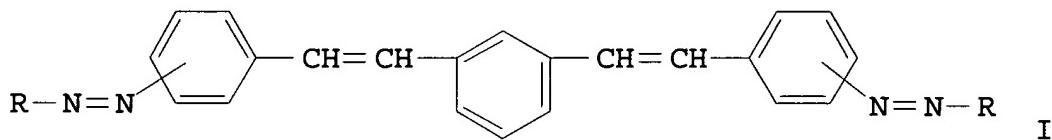
TITLE: Photosensitive drum for electrophotography

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 59232351	A2	19841227	JP 1983-105955	198306 15
PRIORITY APPLN. INFO.:			JP 1983-105955	198306 15

GI



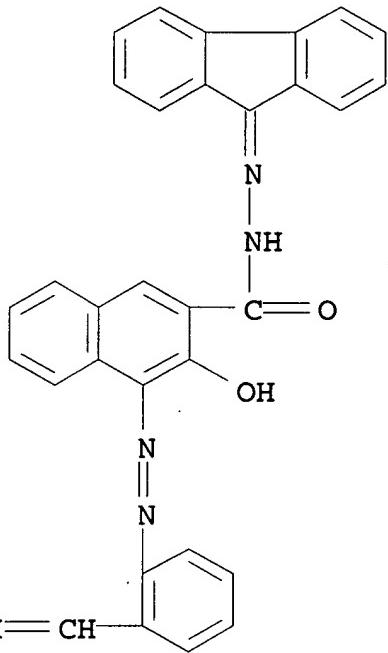
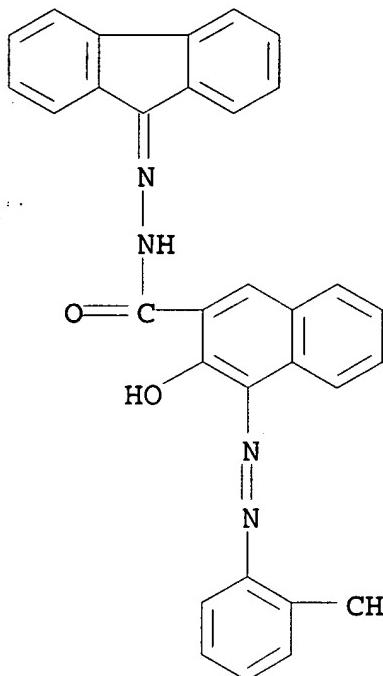
AB In a photosensitive drum (or plate) for electrophotog. obtained by depositing a photosensitive layer on an electroconductive substrate, the photosensitive layer contain a bisazo compd., (I) [R = II (R₁, R₂ = H, lower alkyl, aralkyl, aryl, heterocyclyl, R₁, R₂ may combine to form a ring)]. The photosensitive drum (or plate) can withstand repetitive use.

IT 95737-93-2

RL: USES (Uses)
 (electrophotog. charge-generating pigment)

RN 95737-93-2 HCAPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(1,3-phenylenebis(2,1-ethenediyl-2,1-phenyleneazo))bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95737-84-1	95737-85-2	95737-86-3	95737-87-4	95737-88-5
95737-89-6	95737-90-9	95737-91-0	95737-92-1	95737-93-2
95737-94-3	95737-95-4	95737-96-5	95737-97-6	95737-98-7
95737-99-8	95738-00-4	95738-01-5	95738-02-6	95738-03-7
95738-04-8	95738-05-9	95738-06-0	95738-07-1	
95738-08-2	95738-09-3	95738-10-6	95738-11-7	95738-12-8
95738-13-9				

RL: USES (Uses)

(electrophotog. charge-generating pigment)

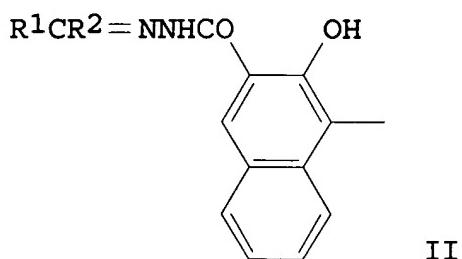
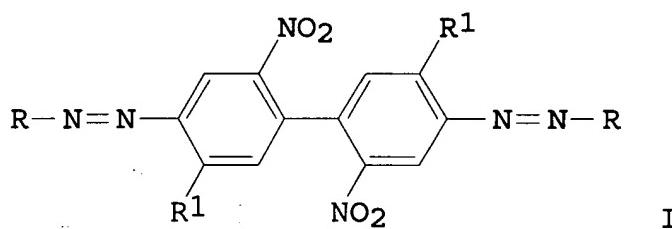
IT 57609-72-0 71530-63-7 75232-44-9

RL: TEM (Technical or engineered material use); USES (Uses)
(electrophotog. charge-transfer agent)

L14 ANSWER 34 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1985:158043 HCAPLUS
DOCUMENT NUMBER: 102:158043
TITLE: Photosensitive drum for electrophotography
PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 59232349	A2	19841227	JP 1983-105953	198306 15
PRIORITY APPLN. INFO.:			JP 1983-105953	198306 15

GI



AB In a photosensitive drum (or plate) for electrophotog. obtained by depositing a photosensitive layer on a substrate, the photosensitive layer contains a bisazo compd. I [R1 = H, MeO; R = II (R1, R2 = H, lower alkyl, aralkyl, aryl, heterocyclyl, R1, R2 may combine to form a heterocyclic ring)]. The photosensitive plate withstands repetitive use.

IT 95738-23-1

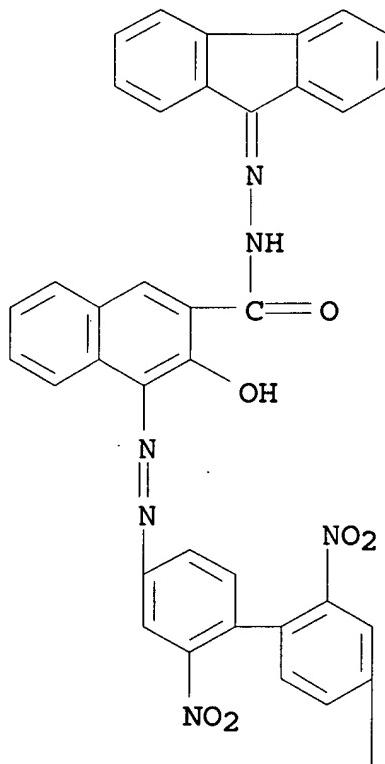
RL: USES (Uses)

(electrophotog. charge-generating pigment)

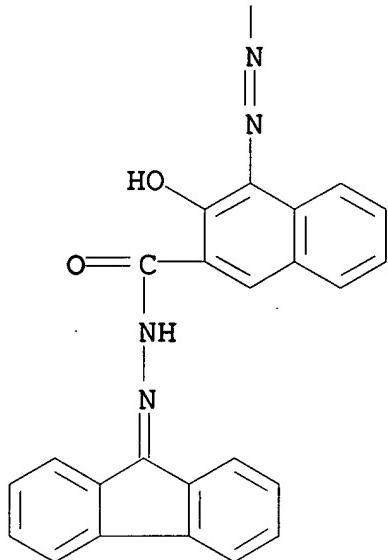
RN 95738-23-1 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(2,2'-dinitro[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95738-14-0 95738-15-1 95738-16-2 95738-17-3 95738-18-4

95738-19-5 95738-20-8 95738-21-9 95738-22-0 95738-23-1

95738-24-2 95738-25-3 95738-26-4 95738-27-5 95738-28-6

95738-29-7 95738-30-0 95738-31-1 95756-13-1 95756-14-2

RL: USES (Uses)

(electrophotog. charge-generating pigment)

IT 57609-72-0 71530-63-7 75232-44-9

RL: TEM (Technical or engineered material use); USES (Uses)

(electrophotog. charge-transfer agent)

L14 ANSWER 35 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:140827 HCPLUS

DOCUMENT NUMBER: 102:140827

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

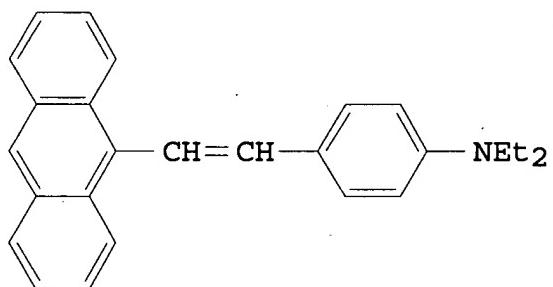
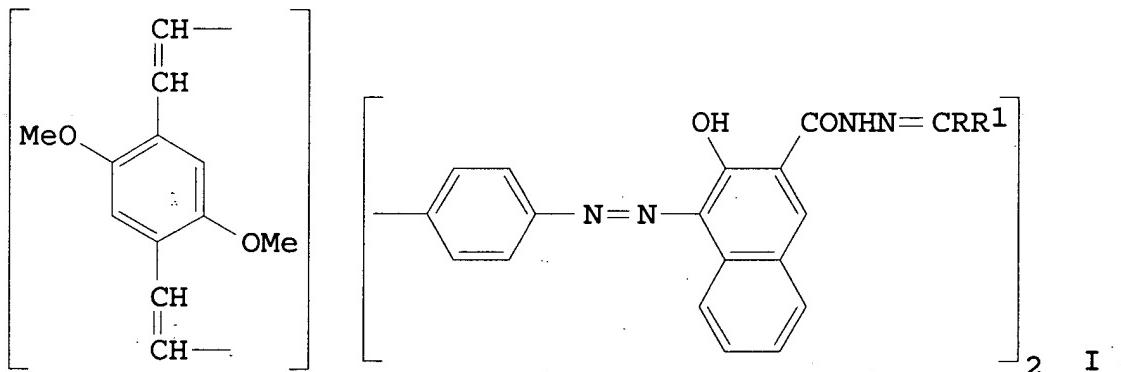
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59214035	A2	19841203	JP 1983-87674	198305 20
PRIORITY APPLN. INFO.:			JP 1983-87674	198305 20

GI



II

- AB Photosensitive layer of the electrophotog. photoreceptor formed on conductive support contains a bisazo dye having the general formula I (R,R1 = H, lower alkyl, aralkyl, arom. group, heterocyclic group; R and R1 may be identical and may together represent the atoms

necessary to form a ring). Claimed dyes are good charge generators and provides durable photoreceptors. Thus, a bisazo compd. (I; R = Ph; R1 = H) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts and THF were dispersed and coated on an Al-laminated polyester film support to form a charge generating layer. The **charge transfer** layer was formed by overcoating with a THF soln. contg. **charge transfer** agent II 2 and polycarbonate resin (Panlite K1300; Teijin chems. Ltd.) 2 parts in THF. Photoreceptor upon charging to -1010 V showed a sensitivity (lx-s for half decay of voltage) of 3.1. Copying tests gave >10,000 copies without the formation of blemishes.

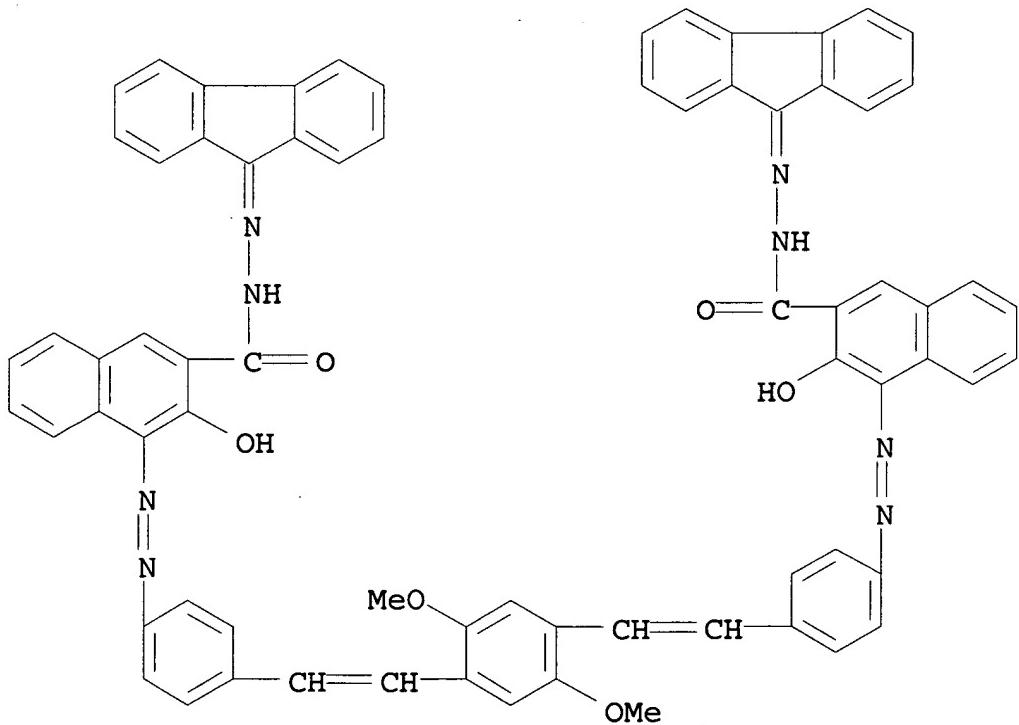
IT 95654-43-6

RL: USES (Uses)

(electrophotog. charge generating agent)

RN 95654-43-6 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(2,5-dimethoxy-1,4-phenylene)bis(2,1-ethenediyl-4,1-phenyleneazo)]bis[3-hydroxy-, bis(9H-fluoren-9-ylidenehydrazide) (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS C09B035-039; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT 95654-39-0 95654-40-3 95654-41-4 95654-42-5 **95654-43-6**
95654-44-7 95654-45-8 95676-92-9 95676-93-0
95676-94-1
RL: USES (Uses)
(electrophotog. charge generating agent)

IT 57609-72-0 75232-44-9
RL: USES (Uses)
(electrophotog. photoreceptor with charge generating layer contg.
bisazo dye and **charge transfer** layer contg.)

IT 71530-63-7
RL: USES (Uses)
(electrophotog. photoreceptor with charge generator layer contg.
bisazo dye and **charge transfer** layer contg.)

L14 ANSWER 36 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:140826 HCPLUS

DOCUMENT NUMBER: 102:140826

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

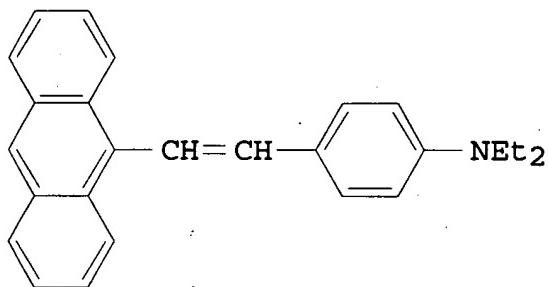
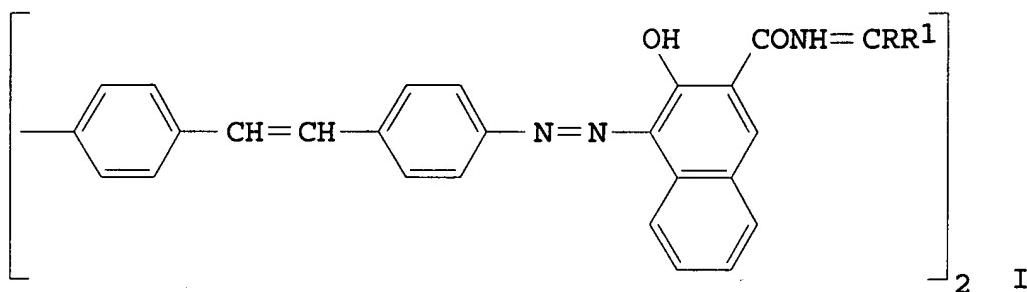
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 59214036	A2	19841203	JP 1983-87675	198305 20
PRIORITY APPLN. INFO.:			JP 1983-87675	198305 20

GI



AB Photosensitive layer of the electrophotog. photoreceptor formed on conductive support contains a bisazo dye having the general formula I (R, R₁ = H, lower alkyl, aralkyl, arom. group, heterocyclic group; R and R₁ may be the same and may together represent the atoms necessary to form a ring). Claimed dyes are good charge generators and provide durable photoreceptor. Thus, a bisazo compd. (I; R = Ph; R₁ = H) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts and THF were dispersed and coated on Al-laminated polyester film to form a charge generating layer. The **charge transfer** layer was formed by overcoating with a THF soln. contg. the **charge transfer** agent II 2 and polycarbonate resin (Panlite K1300; Teijin Chems. Ltd.) 2 parts in THF. Photoreceptor when charged to -1210 V, showed a sensitivity (lx-s for half decay of voltage) of 5.0. Copying tests gave >10,000 copies without the formation of blemishes.

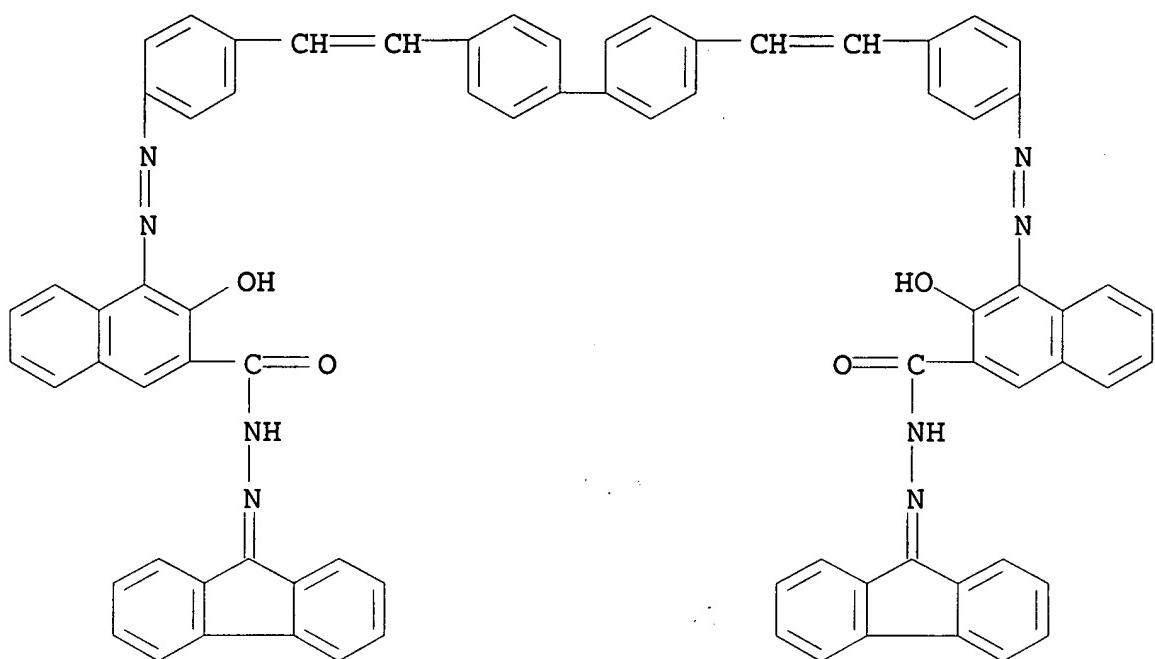
IT 95676-96-3

RL: USES (Uses)

(electrophotog. charge generating agent)

RN 95676-96-3 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-[[1,1'-biphenyl]-4,4'-diyl]bis[2,1-ethenediyl-4,1-phenyleneazo]bis[3-hydroxy-, bis(9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS C09B035-023; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95654-46-9 95654-47-0 95654-48-1 95654-49-2 95654-50-5

95654-51-6 95654-52-7 95676-95-2 **95676-96-3****95676-97-4**

RL: USES (Uses)

(electrophotog. charge generating agent)

IT 57609-72-0 71530-63-7 75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor with charge generating layer contg. bisazo dye and charge transport layer contg.)

L14 ANSWER 37 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:140824 HCPLUS

DOCUMENT NUMBER: 102:140824

TITLE: Electrophotographic photoreceptor

Ricoh Co., Ltd., Japan

PATENT ASSIGNEE(S): Jpn. Kokai Tokkyo Koho, 13 pp.

SOURCE: CODEN: JKXXAF

DOCUMENT TYPE: Patent

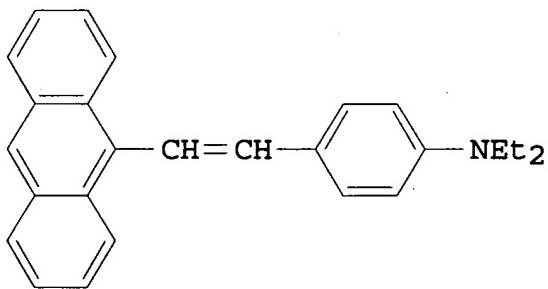
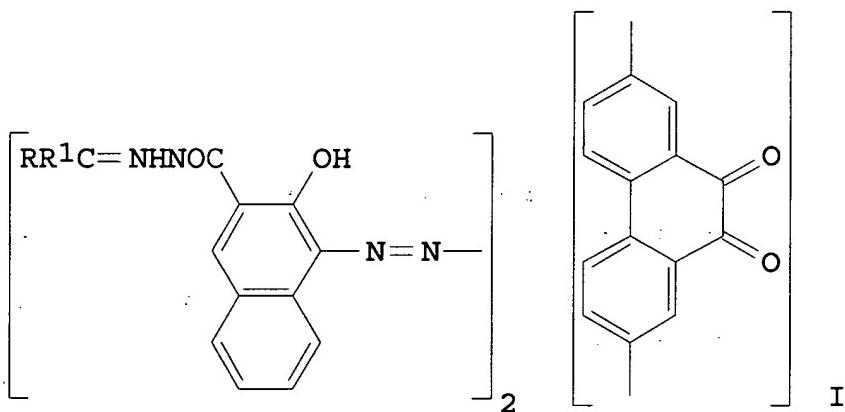
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59218452	A2	19841208	JP 1983-92480	198305 27
JP 04022263	B4	19920416	JP 1983-92480	198305 27
PRIORITY APPLN. INFO.:				

GI



AB Electrophotog. photoreceptor has a conductive support and a photoreceptor layer contg. a bisazo dye having the general formula I (R,R¹ = H, lower alkyl, (substituted) aralkyl, (substituted) arom.

or heterocyclic group; R and R1 may be identical and together represent the atoms necessary to form part of a ring system). The photoreceptor is easy to prep. and has a long lifetime. Thus, an Al-coated polyester film support was coated with a dispersion contg. I (R = H; R1 = Ph) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts, and THF, to form a 1 μm charge-generating layer. A 20- μm charge transfer layer was formed by coating a soln. of II 1 and polycarbonate resin (Panlite K1300; Teijin Chems.) 1 part in THF. The photoreceptor when charged to -1030 V showed a sensitivity (lx-s for half voltage decay) of 8.3. Copying tests gave >10,000 copies free of blemishes.

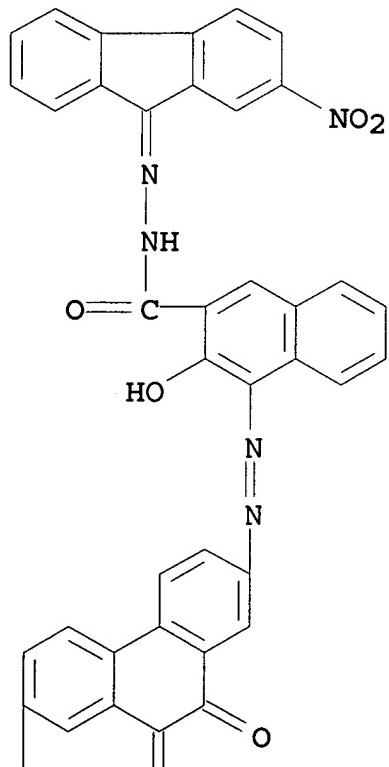
IT 95654-55-0

RL: USES (Uses)
(electrophotog. charge generating agent)

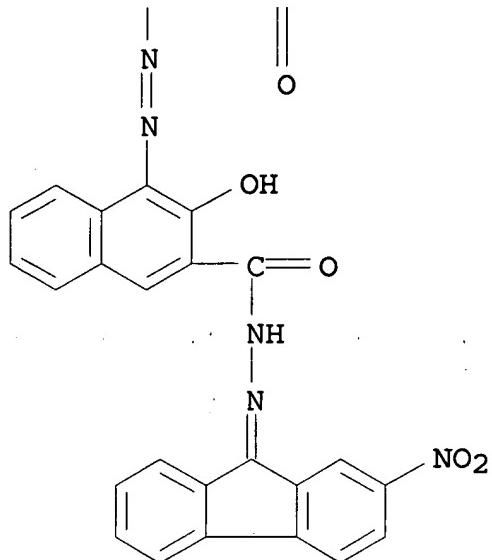
RN 95654-55-0 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(9,10-dihydro-9,10-dioxo-2,7-phenanthrenediyl)bis(azo), bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-34; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95654-53-8 95654-54-9 95654-55-0 95676-98-5

95676-99-6 95677-00-2 95677-01-3 95677-02-4 95677-03-5

95677-04-6

RL: USES (Uses)

(electrophotog. charge generating agent)

IT 57609-72-0 71530-63-7 75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor with charge generating layer contg. bisazo dye and charge transfer layer contg.)

L14 ANSWER 38 OF 39 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:140823 HCAPLUS

DOCUMENT NUMBER: 102:140823

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

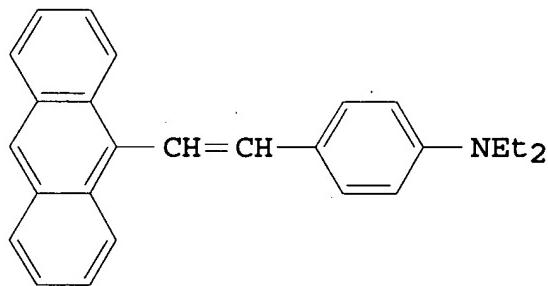
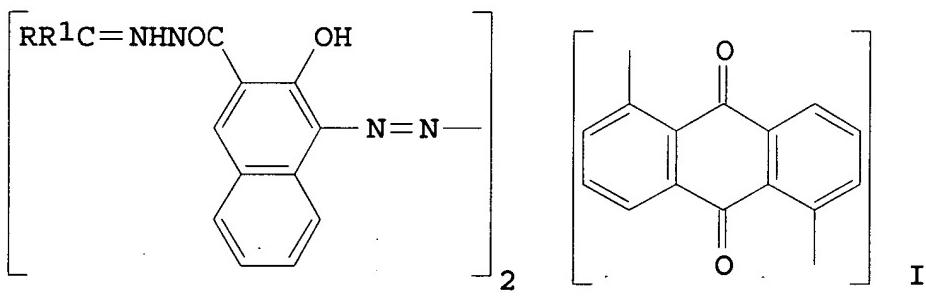
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59218453	A2	19841208	JP 1983-92481	198305 27
PRIORITY APPLN. INFO.: JP 1983-92481				198305 27

GI



AB Electrophotog. photoreceptor has a conductive support and a photoreceptor layer contg. a bisazo dye having the general formula I (R,R1 = H, lower alkyl, (substituted) aralkyl, (substituted) arom. or heterocyclic group; R and R1 may be identical and may together

represent the no. of atoms necessary to form part of a ring system). The photoreceptor is easy to prep. and has a long lifetime. Thus, an Al-coated polyester film support was coated with a dispersion contg. I (R = H; R₁ = Ph) 76, polyester resin (Vylon 200; Toyobo Co.) 25.2 parts, and THF, to form a 1-μm charge-generating layer. A 20-μm charge transfer layer was formed by overcoating with a soln. of II 1 and polycarbonate resin (Panlite K1300; Teijin Chems.) 1 part in THF. The photoreceptor when charged to -920 V showed a sensitivity (lx-s for half voltage decay) of 12. Copying tests gave >10,000 copies free of blemishes.

IT

95654-63-0

RL: USES (Uses)

(electrophotog. charge generating agent)

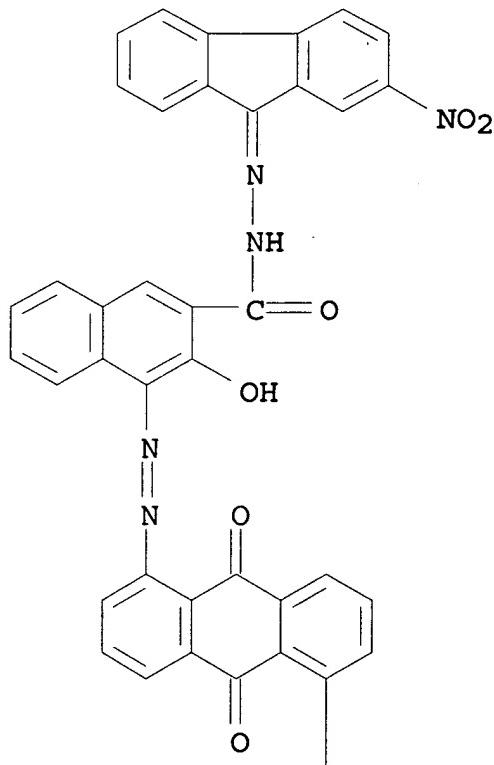
RN

95654-63-0 HCPLUS

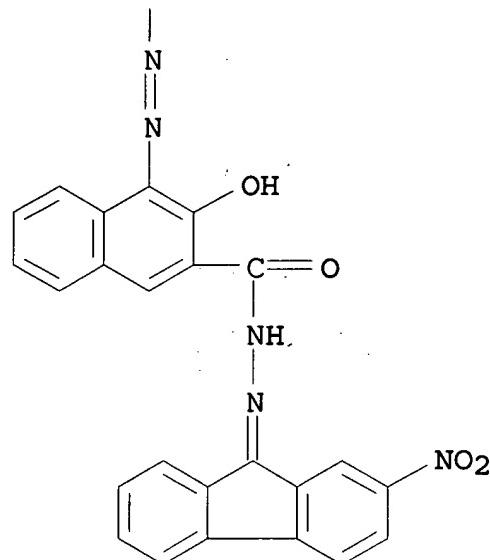
CN

2-Naphthalenecarboxylic acid, 4,4'-[(9,10-dihydro-9,10-dioxo-1,5-anthracenediyl)bis(azo)]bis[3-hydroxy-, bis[(2-nitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC ICM G03G005-06

ICA C09B035-34; H01L031-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 95654-56-1 95654-57-2 95654-58-3 95654-59-4 95654-60-7
95654-61-8 95654-62-9 **95654-63-0** 95677-05-7

RL: USES (Uses)

(electrophotog. charge generating agent)

IT 57609-72-0 71530-63-7 75232-44-9

RL: USES (Uses)

(electrophotog. photoreceptor with charge generating layer contg.
bisazo dye and **charge transfer** layer contg.)

L14 ANSWER 39 OF 39 HCPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:15041 HCPLUS

DOCUMENT NUMBER: 102:15041

TITLE: Electrophotographic photoreceptor

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59113446	A2	19840630	JP 1982-222964	198212 21
JP 02021578	B4	19900515		
US 4504560	A	19850312	US 1983-560481	198312 12
PRIORITY APPLN. INFO.: JP 1982-222964 A				198212 21

GI For diagram(s), see printed CA Issue.

AB An electrophotog. photoreceptor contains a bisazo compd. having the formula I (R = H, Me, OMe, Cl, Br, NO₂; R₁ = CONHN:CHR₂, CONHN:CR₃R₄, II; R₂ = Ph, naphthyl, anthryl, pyridyl, thienyl, furyl, carbazolyl; R₃, R₄ = alkyl, aryl; A = cyclic group). The claimed compds. are good charge carrier-generating agents that provide a high sensitivity and durability, and can be readily prep'd. Thus, an Al-laminated polyester film was coated with a dispersion contg. a polyester resin (Vylon 200; Toyobo Co.) 1 and I (R = Cl; R₁ = CONHN:CHPh) 3 wt. parts in THF. The material was then charged to + or -6KV, and the sensitivity (lx-s for half voltage decay) was 70 and 52, resp.

IT 93608-85-6

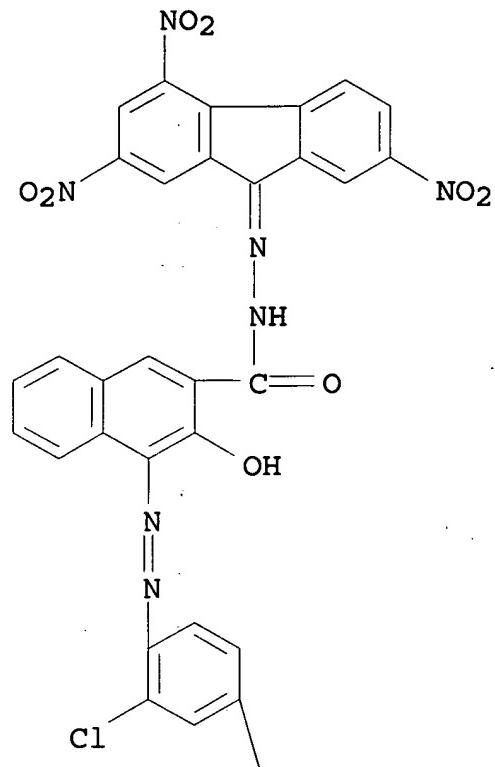
RL: USES (Uses)

(electrophotog. photoreceptor contg.)

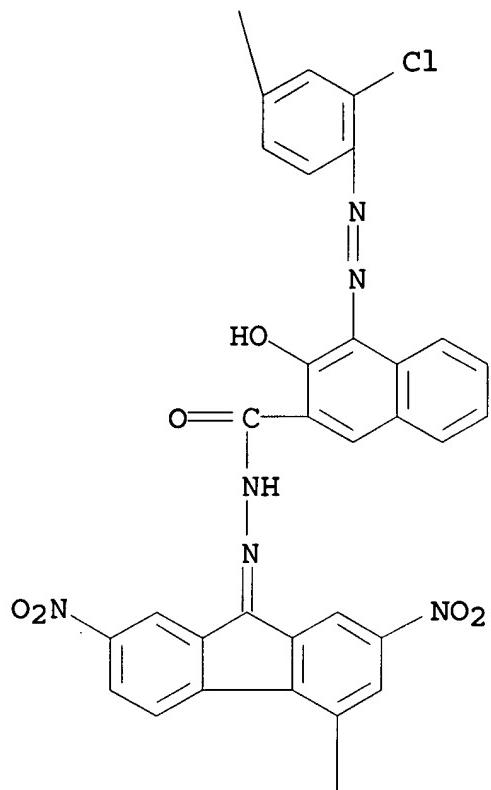
RN 93608-85-6 HCPLUS

CN 2-Naphthalenecarboxylic acid, 4,4'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[3-hydroxy-, bis[(2,4,7-trinitro-9H-fluoren-9-ylidene)hydrazide] (9CI) (CA INDEX NAME)

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IC G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT	93608-70-9	93608-71-0	93608-72-1	93608-73-2	93608-74-3
	93608-75-4	93608-76-5	93608-77-6	93608-78-7	93608-79-8
	93608-80-1	93608-81-2	93608-82-3	93608-83-4	93608-84-5
	93608-85-6	93608-86-7	93608-87-8	93608-88-9	
	93608-89-0	93608-90-3	93608-91-4	93608-92-5	93608-93-6

RL: USES (Uses)
(electrophotog. photoreceptor contg.)

IT 32444-53-4 68189-23-1

RL: USES (Uses)

(electrophotog. photoreceptor with bisazo compd.-contg. charge carrier-generating layer and **charge carrier-transfer** layer contg.)

=>